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PRACTICAL

MATERIA MEDICA FOR NURSES

WITH AN

APPENDIX

CONTAINING POISONS AND THEIR ANTIDOTES, WITH POISON-EMERGENCIES; MINERAL WATERS; WEIGHTS AND MEASURES; DOSE-LIST; AND A GLOSSARY OF THE TERMS USED IN MATERIA MEDICA AND THERAPEUTICS

BY

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TO

ARTHUR STUART ALLEN, M. D.

THIS VOLUME IS DEDICATED

BY

THE AUTHOR

PREFACE TO THE THIRD EDITION.

THE third edition of this volume has been carefully revised and adapted to the Eighth Decennial Revision of the *United States Pharmacopœia*. Many additions and corrections have been made with the view of increasing the value of the book to the nurse, and making it a more complete presentation of the essential facts in materia medica.

PREFACE.

In preparing the following pages for publication, it has been my endeavor to make them as practical as possible, including only the source of the drugs, their action and uses, dosage, and the symptoms and treatment of poisoning.

They constitute the notes of a series of lectures delivered as a companion, so to speak, to "Practical Points in Nursing," and have been arranged in alphabetical order for a more ready reference.

The first part of the book is devoted to the general considerations and classification of drugs.

The second part, to the subject-matter proper of the lectures.

The third part, or appendix, contains Poison-emergencies, Poisons and their Antidotes, Emetics, Mineral Waters, Weights and Measures, Dose-list, Glossary, etc.

The doses of all drugs have been given in both the Apothecaries' and Metric Weights.

In compiling the notes, free use has been made of the works of Hare, Potter, Brunton, Bruce, Thornton, the lectures on "Poisons" by Dr. William H. Devine, the lectures on "Materia Medica and Therapeutics" by

Professor Arthur R. Edwards, of the Northwestern University Medical College, and my own notes of three courses of clinical lectures.

My thanks are due to Dr. Arthur Stuart Allen for his great assistance in revising the notes, and to Professor Frank Marion Kindig, of the Northwestern University Medical College, for assistance with the proofs and for his suggestions and criticisms, which have been invaluable.

EMILY A. M. STONEY.

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PART I.

GENERAL CONSIDERATIONS AND THE CLASSIFICATION OF DRUGS.

INTRODUCTORY.

MATERIA MEDICA is that branch of medical science which treats of the remedies employed in medicine, their origin, names, modes of preparation, administration, doses in which they may be given, and their physiologic and toxicologic actions.

Remedies are divided into two classes—*local* and *general*. A *local* remedy acts on a particular organ or part; a *general* remedy acts on the whole system.

Local remedies are divided into four classes:

1. *Those which affect the function of a part,* such as anesthetics, cathartics, cholagogues, diuretics, emmenagogues, diaphoretics, expectorants, oxytocics, and sialagogues.

2. *Those which affect the organization of a part:* caustics or escharotics, epispastics or vesicants, and rubefacients.

3. *Those which have a mechanical action:* emollients, demulcents, and protectives.

4. *Those which act on extraneous matter within the organs:* absorbents, antacids, anthelmintics, disinfectants, and solvents.

The six principal avenues of medication are:

1. The mouth (stomach).
2. The rectum.
3. The cellular tissue (subcutaneous injection).
4. The skin (inunction).
5. The lungs (inhalation).
6. The denuded skin (blisters).

The Mouth.—This is the first and best means of medication. Medicines are given by mouth for their local action on the alimentary canal and to be absorbed from it. When local action upon the stomach is desired, the medicine should be given when the viscus is empty in order that it may come in contact with all parts of the gastric mucous membrane. If slow absorption is desired or it is necessary to avoid irritating the stomach, the medicine is given after meals, during the process of gastric digestion. When it is desired that absorption shall take place from the intestines, the medicine should be given from two to three hours after a meal, when the gastric digestion is almost completed and the partly digested food is being swept into the intestinal canal. The absorption of drugs from the stomach and intestines, it must be remembered, may be considerably retarded and their action diminished by the liver, because, before reaching the general circulation, medicines absorbed from the intestinal canal usually pass through the liver, and in their passage they may be partially destroyed or temporarily arrested and excreted again into the intestine along with the bile.

When given for its local action on the mouth or pharynx, medicine should be given one or two hours before or after meals; its effect will then be more pro-

longed than when taken immediately before meals, since there will be no danger of the drug being wiped off in the process of mastication and swallowing.

The Rectum.—When there is serious derangement of the stomach, or when, for any reason, the patient is unable to swallow, we find the rectum a most convenient avenue for absorption. When giving medicine by rectum, we must remember two things:

1. That the process of absorption is slow, but that much may be gained by giving the enema as high as possible, since the colon is less irritable than the rectum and is better fitted for absorption.

2. That the surface of the lower bowel is usually more or less covered with material which interferes with absorption, and hence it should always be first cleansed with plain water before injecting the medicine. Medicines are given by the rectum in the form of enemata, suppositories, and rectal capsules. The dose of the drug is usually twice the amount given by mouth, unless the medicine is very powerful or is capable of rapid absorption.

Hypodermic Administration (*Subcutaneous Injection*).—Hypodermic or subcutaneous injection means the injecting of a drug under the skin. This method is resorted to when we wish to secure certain and prompt action, as in stimulating the heart, relieving pain, and in causing emesis. The dose of a drug given hypodermically is usually one-half the quantity given by the mouth, because it enters directly into the circulation and the entire dose is acting at one time, and is not modified by altered conditions of the digestive tract.

For the subcutaneous administration of drugs we use a hypodermic syringe. The most convenient places for

the injection are the outside of the arms, the forearms, the chest, the abdomen, and the thighs, the injection being made into the fleshy part, avoiding the large blood-vessels, nerves, and bone. The syringe should be cleansed by drawing through it a 1 : 20 solution of carbolic acid several times, followed by very hot water. The needle should be boiled in a large spoonful of water over a gas-flame. The syringe is loaded with the ordered solution, the needle is screwed on tightly, making sure that it does not leak at the junction, and the air is expelled by gently pressing the piston until a drop of the fluid escapes from the needle.

After bathing the part with a weak solution of carbolic acid (1 : 60 or 1 : 40) or alcohol, to insure absolute cleanliness, the skin is pinched up between the thumb and forefinger of the left hand, and the needle is quickly and slantingly inserted to the depth of about half an inch, so as to reach the underlying muscle or fat, then withdrawn slightly, and the fluid slowly injected, so as not to cause discomfort. A gentle friction over the part will distribute the fluid and aid its absorption. The needle is quickly removed and the friction is kept up for a few moments. Perfect cleanliness is essential in the operation, otherwise an abscess may result or some contagious disease may be transmitted.

After the operation the syringe should be thoroughly washed by drawing through it the carbolic-acid solution and hot water. The thin wire should be kept constantly in the needle to prevent the entrance of dirt. If the syringe is in constant use, it may be kept in a solution of carbolic acid 1 : 20. If not often used, the syringe should be soaked every few days in hot water to prevent the packing from shrinking.

The medicines most commonly used hypodermically are:

Adrenalin, alcohol, ammonia-water, antitoxins, apomorphin, atropin, caffein, camphor, cocain, corrosive sublimate, digitalin (soluble), ergotin, eserin or physostigmin, ether, hyoscin, morphin, nitroglycerin, pilocarpin, quinin, strychnin.

Hypodermic syringes hold from 15 to 30 minims.

Intravenous injection, which is the injection of fluids directly into a vein, is practised only in cases of emergency. After copious hemorrhage, saline solutions are sometimes administered by this method.

Inunction is the rubbing of an oil or an ointment into the skin, either to secure its absorption or to prevent contagion through fine scales thrown off from the skin in such diseases as scarlet fever and measles. When the inunction is employed to prevent contagion, the body should be smeared from head to foot with warm sweet oil, cacao-butter, or vaselin, and the friction should be long and thorough. About four ounces of oil are required at each rubbing. In order to promote absorption from the skin the surface should first be bathed with warm water.

Mercurial Inunction.—The method of applying mercury to the skin is resorted to when the stomach is intolerant of drugs, or when, administered by mouth in full doses, they do not favorably modify the symptoms.

The mercury passes through the skin without producing any irritation, and is absorbed into the circulation, where the general effects of the drug are produced. The ointment should be rubbed on those parts where the skin is thin and the function of absorption is greatest, such as the inner sides of the thighs and the armpits.

The order of application differs somewhat. One method is as follows: On the first evening the patient takes a hot bath and puts on fresh underclothing. The second evening a piece of ointment about the size of a small nut is thoroughly rubbed into the skin of the inner side of the right thigh. On the third evening the left thigh is taken, and then, on successive evenings, the left armpit and the right armpit.

Dr. William H. Devine gives the following order:

First evening, the buttocks.

Second evening, the thighs.

Third evening, the side of the chest, but not the armpit.

Fourth evening, the internal surface of the arms and forearm.

Fifth evening, the back and abdomen.

Sixth evening, omit treatment.

Seventh evening, bathe, change underclothing, and resume treatment.

The ointment remaining after the rubbing, which should be continued for fifteen minutes, should be left on the skin, and the patient should wear the same underclothing night and day. By taking one part each evening irritation from the excessive friction is avoided. When applied to children, it is a good plan to put the ointment on a piece of flannel and to fasten the flannel to the part with a bandage. There is then no danger of the child spreading the ointment over other parts of the body. Fresh ointment should be put on the flannel every day, even if the latter appears soiled. The nurse should wash her hands thoroughly after each application, since absorption may take place through the skin of the hands.

Inhalation.—Inhalation is the method of administering a drug in the form of a vapor or gas through the respiratory tract. This method is especially employed for the administration of very volatile drugs, which are absorbed rapidly through the lungs, such as ether, chloroform, amyl nitrite, and ammonia. By this means also an agent can be brought into direct contact with the mucous membrane of the mouth, nose, throat, larynx, and bronchial tubes. Inhalations may be dry or moist.

Dry inhalations may be taken from a heated shovel or plate. The drug is placed on the shovel, and a paper cone is made, the broad end of which is placed over the drug, while the vapor is inhaled from the narrow end.

Moist Inhalations.—Moist inhalations are employed to soothe the throat and trachea when these parts are inflamed, dry, and irritated. In the absence of a steam-inhaler the vaporized substances may be inhaled from a tea- or a coffee-pot standing over a lamp placed by the bedside, or the solution may be put into a pitcher or a tin pan, covered with a perforated paper, through which the patient may inhale the vapor. The patient should breathe quite naturally, taking in the vapor through the mouth, then closing the mouth, and allowing it to escape through the nose, breathing five or six times in succession before intermitting the inhalations.

If the patient is not in bed, he should inhale the vapor in the evening before retiring, or if done in the daytime, he should remain indoors subsequently for about half an hour to prevent taking cold. The inhalation of moist air, which is sometimes ordered in croup, diphtheria, and after tracheotomy, may be secured by keeping kettles of boiling water in the room or by placing small pieces of unslaked lime in pans of water.

Endermic Medication.—This consists in the production of a blister, the removal of the epidermis, and the application of the drug in the form of a powder, ointment, or solution to the denuded surface.

This method is now rarely used, except in cases in which it is desirable to combine the counterirritant action of the blister with the local sedative effect of morphin.

Absorption of Medicines.—The rapidity of absorption depends upon four things:

1. *The State of the Circulation.*—If the circulation is active, absorption is active; if depressed, as in shock, for instance, absorption is slow.

2. *The Physical State of the Medicine.*—A drug given in a soluble form is usually absorbed more quickly than when given in an insoluble form. Drugs given in solution are more quickly absorbed and have greater effect than when given in pill or powder form. Alcoholic solutions are generally more quickly absorbed than watery solutions.

3. *The Part to Which the Drug is Applied.*—Absorption is quickest from serous membranes, next from intercellular tissue, and slowest from mucous membranes. The vascularity and rate of absorption from intercellular tissue are greater on the inner sides of the arms and legs than on their outer surfaces. Medicine given upon an empty stomach is more rapidly absorbed because it comes in contact with all parts of the mucous membrane and is not impeded by the presence of food. For instance, wine taken with dinner may have little effect, whereas the same amount taken on an empty stomach may produce intoxication. Absorption is more certain and rapid when the drug is given hypodermically than

when given by the mouth or rectum, because it enters directly into the circulation and is not subjected to modification by altered conditions in the stomach and intestine. In the alimentary canal there is not only the condition of the circulation to be considered, but also the fulness or emptiness of the stomach and intestine, the condition of their epithelial covering and of their nervous supply. Certain conditions in these organs may not only delay, but entirely prevent, absorption. The more rapid the absorption or the slower the excretion of any drug, the greater will be its effect. Absorption from the lungs is rapid on account of their large blood-supply.

4. *The Power the Drug has of Passing Rapidly Through a Living Membrane.*—In order to be absorbed from the stomach or intestines, or in any way to enter the circulation except by direct injection, the drug must pass through walls of capillaries or lymphatics, and hence must be in solution or in a finely divided state, as in emulsion. But, in addition to this, the osmotic action of the animal membranes is evinced more markedly in the absorption of some drugs than in others, owing, probably, to inherent properties of their own, irrespective of solubility.

Cumulative Action.—Some drugs are excreted from the body so slowly that the whole of one dose is not excreted before the next one is given; consequently the amount present in the body gradually increases, and after a while severe symptoms may appear, due to the accumulation of the poison in the body. This is called "cumulative action."

The duration of the action of drugs depends chiefly upon the rapidity or slowness of their elimination from the body.

Idiosyncrasy.—Idiosyncrasy is a peculiarity of constitution whereby certain individuals are affected by a drug or agent in a manner entirely different from the ordinary. Thus, in some the smallest dose of quinin produces ringing in the ears and deafness; in others shell-fish produces hives, etc.

Dosage.—**Age, Weight, and Sex.**—The dose of a drug is regulated by the age, weight, and sex of the patient. The dose for a child is one-seventh of that for an adult; the dose for a woman is usually smaller than that for a man. Heavy, muscular persons require larger doses, as a rule, than those who are delicate.

Method of Administration.—The dose given hypodermically is usually one-half to one-quarter of that given by the mouth, and the dose given by rectum is usually twice the amount given by mouth.

Disease.—In illness the dose is increased or decreased according to the severity of the disease or the urgency of the case. Thus, very large doses of morphin are tolerated in severe pain, because the action of the drug is spent in overcoming the pain. In cases of grave shock larger doses of stimulants are given than would be required in conditions of slight depression of the circulation. Pregnancy, menstruation, and lactation modify the doses of some drugs.

Combinations.—If a drug be given to antagonize the toxic effects of another drug, its dose may be larger than its ordinary therapeutic dose. The ordinary dose of the sulphate of atropin is $\frac{1}{100}$ of a grain, while in opium-poisoning as much as from $\frac{1}{60}$ to $\frac{1}{40}$ of a grain may be given. Calomel can be given more freely if a saline cathartic be given with it to prevent its cumulative effects.

In the purgative pill consisting of aloes, belladonna,

and strychnin aloes is a mild purgative, acting chiefly on the lower portion of the intestines; belladonna increases peristalsis and checks the griping excited by the aloes, while strychnin acts as a general tonic to the stomach and intestines, exerting its chief influence on the nervous system.

Another instance is the combination of morphin and chloral given in insomnia. Chloral depresses the heart, and cannot be given in full doses when the heart is weak; morphin not only produces sleep, but stimulates the heart and depresses the respiration: hence small doses of each are given together to produce sleep, so that neither the heart nor the respiration suffers.

Temperature.—Some drugs are more rapidly eliminated in hot weather than in cold, because the skin is more active. In hot climates larger doses are given than in cold climates, because the heat assists elimination.

Toleration and Habit.—When a patient has been taking a drug for some time, the system becomes accustomed to it and can tolerate a large dose without injury. This toleration may continue until the habit of taking the drug is formed.

CLASSIFICATION OF DRUGS.

Alteratives.—Medicines which, without exerting any perceptible action on any particular organ, modify the processes of nutrition and thus restore the normal functions of the body:

Mercury.	Iodids.	Iodin.
Arsenic.	Iodoform.	Ichthyol.
Guaiac.	Gold.	Sarsaparilla.
Cod-liver oil.	Iodol.	Thyroid extract.
	Colchicum.	

Analgesics.—(See *Anodynes.*)

Anesthetics.—Agents which destroy sensation. There are two varieties—local and general. General anesthetics act on the central nervous system and destroy sensation throughout the whole body. Local anesthetics destroy the sensibility of a part by direct action on the peripheral nerves:

General Anesthetics.	*Local Anesthetics.*
Ether.	Cocain.
Chloroform.	Eucain.
Nitrous oxid.	Ether.
Ethyl bromid.	Ethyl chlorid.
Ethyl chlorid.	Ice.
	Carbolic acid.
	Menthol.
	Chloral-camphor.
	Orthoform.
	Aconite.

Antacids.—Agents which neutralize acids. They are divided into direct and remote.

Direct antacids lessen acidity in the stomach. Remote antacids have little power over the acidity in the stomach but, by being oxidized in the blood, they are excreted as carbonates in the urine and so lessen its acidity:

Direct.	*Remote.*
Lime-water.	Lithium carbonate.
Chalk.	Lithium citrate.
Solution of potassium hydroxid.	Potassium bicarbonate.
Solution of sodium hydroxid.	Potassium citrate.
Aromatic spirits of ammonia.	Potassium acetate.
Sodium bicarbonate.	Potassium bitartrate.
Magnesia.	Potassium tartrate.
Magnesium carbonate.	
Bismuth subnitrate.	

Anodynes—Analgesics.—Agents which relieve pain. They are divided into general and local. General anodynes when taken internally affect the whole system. Local anodynes affect the part to which they are applied, some by lessening the excitability of the sensory nerves and some by reducing the local circulation:

Local.	*General.*
Moist and dry heat.	Opium.
Extreme cold.	Morphin.
Ice.	Antipyrin.
Aconite.	Phenacetin.
Opium.	Acetanilid.
Morphin.	Bromids.
Belladonna.	Cannabis indica.
Cocain.	
Ether-chloroform.	
Iodoform.	
Chloroform.	
Chloral-camphor.	

Anthelmintics.—Remedies used to kill or expel intestinal worms, the chief of which are round-worms, tape-worms, and thread-worms.

For *round worms*—santonin, spigelia, or chenopodium.

For *tape-worms*—cusso, filix-mas, turpentine, thymol, pelletierin, kamala, or pumpkin-seed.

For *thread-worms*—enemata containing lime-water, quassia, sodium chlorid, or vinegar.

Antiperiodics.—Agents which are employed for the purpose of preventing or curing malaria, the attacks of which are apt to occur periodically. They are also termed antimalarials.

Quinin and other cinchona alkaloids.
Methylene-blue.
Warburg's tincture.
Arsenic.

Antipyretics or Febrifuges.—Agents which reduce the temperature of the body:

Antipyrin.	Aconite.	Cold bath.
Acetanilid.	Nitrous ether.	Cold pack.
Phenacetin.	Guaiacol.	Cold enema.
Quinin.		Cold douche.

The application of cold by bathing, douching, or sponging is the best way of lowering temperature, because of its stimulating effect upon the circulation and nervous system.

Antiseptics.—Agents which hinder or prevent the development of germs without necessarily destroying them. They are used internally and externally.

Corrosive sublimate.	Naphthol.
Carbolic acid.	Naphthalin.
Formalin.	Creolin.
Hydrogen peroxid.	Lysol.
Boric acid.	Iodoform.
Salicylic acid.	Iodol.
Sulphurous acid.	Aristol.
Potassium permanganate.	Thymol.

Silver compounds.

Many volatile oils (eucalyptus, thyme, mint, etc.).

Antihydrotics or Anhydrotics.—Agents which lessen the secretion of sweat:

Atropin.	Belladonna.	Sulphuric acid.
Cold.	Picrotoxin.	Camphoric acid.

Antisialics.—Agents which decrease the flow of saliva. The chief antisialic is atropin.

Antispasmodics.—Agents which prevent or allay spasm of the voluntary or involuntary muscles:

Ether.	Hoffmann's anodyne.	Bromids.
Chloral.	Valerian.	Asafetida.
Musk.	Chloroform.	Amyl nitrite.
Camphor.	Alcohol.	Opium.
Hops.	Belladonna.	Lobelia.
Antipyrin.	Monobromate of camphor.	Bromoform.

Antizymotics.—Agents which arrest fermentative processes. (See *Antiseptics* and *Disinfectants.*)

Antiphlogistics.—Medicines and means which reduce inflammation:

Counterirritation.	Cold.	Purgation.
Rest (recumbent position).	Bleeding.	Mercury.
Opium.	Aconite.	Antimony.

Astringents.—Agents which cause contraction of tissues and lessen secretion from mucous membranes. They are divided into two classes—remote and local. Remote astringents act on the internal organs through the circulation; local astringents, on the part to which applied:

Local.	*Remote.*
Tannic acid.	Zinc sulphate.
Gallic acid.	Salts of iron.
Alum.	Salts of bismuth.
Lead acetate.	
Copper sulphate.	

Cardiac Sedatives.—Medicines which lessen the frequency and force of the heart's action:

Aconite.	Veratrum.	Tartar emetic.
	Hydrocyanic acid.	

Cardiac Stimulants.—Medicines which increase the force of the heart's action. They may either increase or decrease the frequency of the pulse:

Ether.	Alcohol.	Nitroglycerin.
Caffein.	Digitalis.	Strophanthus.
Cocain.	Camphor.	Nitrite of amyl.
Adonin.	Ammonia.	Cactus grandiflorus.
Spartein.	Strychnin.	Adrenalin.
	Convallaria.	

Heat is one of the most powerful and most easily obtained cardiac stimulants, and, in the absence of a physician, should take precedence over all other remedies.

Carminatives.—Remedies which aid in the expulsion of gas from the stomach and intestines by increasing peristalsis and stimulating the circulation:

Oil of peppermint.	Cloves.	Chloroform.
Oil of turpentine.	Ginger.	Hoffmann's anodyne.
Oil of anise.	Camphor.	Asafetida.
Oil of cinnamon.	Pepper.	Capsicum.

Cathartics.—Agents which increase intestinal evacuations. They are divided into:

1. **Laxatives.**—Drugs which produce normal stools:

Sulphur.	Castor oil (small doses).
Figs.	Calomel (small doses).
Magnesia.	Cascara sagrada.
Prunes.	Tamarind.
Molasses.	Manna.

2. **Purgatives** are more active than laxatives, and produce large, soft stools:

Calomel (large doses).	Aloes.	Senna.
Castor oil (large doses).	Rhubarb.	Blue-mass.

Purgatives in small doses act as laxatives, and laxatives in large doses become purgatives.

3. **Hydragogues.**—Drugs which produce copious watery stools:

Epsom salt.	Jalap.	Rochelle salt.
Elaterium.	Seidlitz powder.	Sodium sulphate.
	Magnesium citrate.	

4. **Drastics.**—Drugs which produce violent action of the bowels, and in large doses cause gastro-intestinal inflammation:

Croton oil.	Colocynth.	Podophyllum.
Scammony.	Gamboge.	

5. **Cholagogues.**—Drugs which stimulate the secretion of the liver, causing dark stools. The following are thought to possess cholagogue action:

Mercury.	Podophyllin.	Ipecac.
Sodium phosphate.	Euonymin.	Ox-gall.

Cerebral Stimulants.—Drugs which stimulate the functional activity of the brain:

Caffein.	Strychnin.

Cerebral Depressants.—Drugs which lessen the activity of the brain. Under this heading are included hypnotics, narcotics, and general anesthetics.

Counterirritants.—Drugs which produce inflammation of the parts to which they are applied. They relieve pain, reabsorb inflammatory products, and modify internal inflammatory processes. They are divided into rubefacients and epispastics, or vesicants.

Rubefacients produce merely redness of the skin:

Turpentine.	Mustard.	Ammonia.
Iodin.	Capsicum.	Chloroform.

Epispastics, or **vesicants**, produce blisters:

Strong ammonia-water.	Cantharides.
Tartar-emetic ointment.	Croton oil.

Deliriants.—Drugs which excite the activity of the brain to such a degree as to produce delirium and sometimes convulsions:

Alcohol (in full doses).	Cannabis indica.
Opium (during first stage).	Belladonna.
Hyoscyamus.	Stramonium.
Cocain.	

Digestives.—Drugs which promote digestion by chemic action:

Hydrochloric acid.	Pancreatin.	Pepsin.
Diastase.	Papayotin.	

Escharotics, or **caustics**, destroy the life of the soft tissues to which they are applied, and form a slough:

Caustic potash.	Caustic soda.
Zinc chlorid.	Copper sulphate.
Chromic acid.	Silver nitrate.
Bromin.	Sulphuric acid.
Carbolic acid.	Arsenous acid.
Nitric acid.	Acetic acid.
Nitrate of mercury solution.	

Demulcents are substances which soothe inflamed

mucous membranes. They are generally of a mucilaginous character:

Flaxseed tea.	White of egg.	Starch.
Acacia.	Olive oil.	Gelatin.
Glycerin.	Slippery elm.	

Deodorants.—Remedies which destroy bad odors:

Chlorin.	Hydrogen peroxid.
Formaldehyd.	Potassium permanganate.
Lime.	Carbolic acid.
	Charcoal.

Diaphoretics.—Remedies which increase the secretion of sweat:

Opium.	Pilocarpin.	Hot packs.
Alcohol.	Hot baths.	Vapor baths.
	Warburg's tincture.	

Disinfectants or Germicides.—Remedies which destroy noxious germs. The greatest disinfectant is heat; boiling water will, as a rule, destroy bacteria in from five to ten minutes. Next to boiling water steam is the most powerful agent, and next to steam, hot air. The chief chemic agents are:

Corrosive sublimate.	Carbolic acid.	Formaldehyd.
Chlorin.	Creolin.	Salicylic acid.
Thymol.	Urotropin.	Lysol.

Antiseptics (see p. 24) in concentrated solution are also disinfectants.

Diuretics.—Remedies which cause an increased flow of urine. They are divided into refrigerant or hydragogue diuretics and stimulant diuretics:

Stimulant.	*Refrigerant.*
Turpentine.	Potassium salts.
Buchu.	Digitalis.
Juniper.	Caffein.
Copaiba.	Strophanthus.
Sandalwood.	Squill.
Cubebs.	Theobromin.
Cantharides.	Scoparius.
Eucalyptus.	
Uva ursi.	
Benzoic acid.	

Emetics.—Remedies which induce vomiting. They are divided into peripheral or stimulating emetics, which produce emesis by direct action on the stomach; and central emetics, which produce their effect by acting upon the vomiting center in the brain:

Peripheral Emetics.	*Central Emetics.*
Warm water.	Apomorphin.
Mustard.	Ipecac (partly central).
Alum.	Tartar emetic (partly central).
Zinc sulphate.	
Copper sulphate.	

Antiemetics.—Remedies which allay vomiting. Their action may be either peripheral or central:

Peripheral Antiemetics.	*Central Antiemetics.*
Ice.	Morphin.
Carbonated water.	Bromids.
Lime-water.	Chloral.
Carbolic acid.	
Bismuth subnitrate.	
Cocain.	
Hydrocyanic acid.	
Ipecac (minute doses).	

Emmenagogues.—Remedies which restore the menstrual flow. They are divided into direct and indirect. Direct emmenagogues are those which stimulate the uterine muscular fiber; the indirect improve the blood and tone up the nervous system:

Indirect.	*Direct.*
Iron.	Potassium permanganate.
Cod-liver oil.	Pulsatilla.
Strychnin.	Quinin.
Purgatives (aloes).	Cantharides.
	Myrrh.
	Apiol.
	Pennyroyal.
	Senecio.

Expectorants.—Remedies which increase the amount of sputum formed in the air-passages, or so modify its character as to promote its expulsion with greater ease. They are divided into sedative or nauseating expectorants and stimulant expectorants.

Nauseating expectorants promote bronchial secretion, render it less viscid, and, hence, more easy of removal, and in large doses cause vomiting.

Stimulant expectorants stimulate the bronchial mucous membrane and modify and diminish expectoration:

Nauseating Expectorants.	*Stimulant Expectorants.*
Ipecac.	Terebene.
Apomorphin.	Squill.
Tartar emetic.	Senega.
Lobelia.	Copaiba.
Potassium citrate.	Creasote.
	Ammonium chlorid.
	Eucalyptus.
	Oil of sandalwood.

Febrifuges.—Remedies which lower the body-temperature. (See *Antipyretics.*)

Hemostatics or Styptics.—Agents which arrest hemorrhage:

Alum.	Tannic acid.	Ferric subsulphate
Ferric chlorid.	Lead acetate.	(Monsel's solution).
Vinegar.	Gelatin.	Adrenalin.
Ergot.	Hydrastis.	Calcium chlorid.
Pressure.	Position.	Actual cautery.

Ice and heat are also hemostatics, heat being the better, as it causes the blood-vessels to shrink. Ice, by constricting the vessels, stops the hemorrhage for a while, but when removed, and the circulation is restored, bleeding may begin again.

Hypnotics.—Remedies which induce sleep:

Chloral hydrate.	Hyoscin.	Opium.
Bromids.	Trional.	Chloralamid.
Paraldehyd.	Sulphonal.	Veronal.

Heat to the feet and abdomen.

A cup of hot cocoa and a cracker or a glass of hot milk will sometimes induce sleep by diverting the blood-supply from the brain.

Laxatives.—(See *Purgatives.*)

Mydriatics.—Agents which dilate the pupil of the eye:

Homatropin.	Scopolamin.	Atropin.
Duboisin.	Hyoscin.	Cocain.

Myotics.—Agents which contract the pupil of the eye:

Physostigmin (eserin). Pilocarpin.

Narcotics.—Drugs which produce profound sleep or stupor. Large doses cause coma and death:

Opium.	Chloral.	Alcohol.
Chloroform.	Cannabis indica.	Ether.

Nerve-stimulants.—Remedies which increase the activity of the cerebrospinal system:

Alcohol.	Strychnin.	Caffein.
Atropin.	Cocain.	Exercise.
	Friction.	

Nerve-sedatives.—Remedies which act as sedatives to the entire nervous system:

Chloral.	Asafetida.	Opium.
Urethan.	Antipyrin.	Bromoform.
Bromids.	Sulphonal.	Croton chloral.
Valerian.	Phenacetin.	Cannabis indica.
Antifebrin (acetanilid).		Hyoscin.

Oxytocics.—Drugs which increase the uterine contractions during and after labor:

Ergot. Cotton-root. Quinin. Hydrastis.

Refrigerants.—Remedies which relieve thirst and impart a feeling of coolness:

Effervescing drinks.	Cold water.
Vegetable and mineral acids.	Cold baths.
Fruit-juices.	Cold packs.
Ice.	Cold sponging.

Respiratory Sedatives.—Drugs which lessen the activity of the respiratory center, causing thereby slow, shallow respirations:

Opium.	Aconite.	Chloral.
Tartar emetic.		Hydrocyanic acid.

Respiratory Stimulants.—Drugs which increase the activity of the respiratory center, making respirations deep and rapid:

Ammonia. Atropin. Strychnin. Caffein. Cocain.

Pulmonary Sedatives.—Remedies which relieve cough and dyspnea by their sedative action on the peripheral nerves of the lungs:

Opium.	Hyoscyamus.	Bromids.
Codein.	Belladonna.	Chloroform.
Heroin.	Cannabis indica.	Hydrocyanic acid.

The morning cough of tuberculosis can often be mitigated by a warm, nourishing drink, such as a cup of warm cocoa, on first awaking.

Tonics.—Remedies which restore energy and impart permanent strength to the whole body:

Iron.	Hydrochloric acid.	Cod-liver oil.
Arsenic.	Nitrohydrochloric	Strychnin.
Phosphorus.	acid.	Quinin.

Bichlorid of mercury (minute doses).

Stomachics or Gastric Tonics.—Drugs which increase the flow of gastric juice and improve the appetite and digestion:

Alkalis (well diluted and taken before meals).

Cinchona.	Dilute acids.	Alcohol.
Quassia.	Gentian.	Quinin.
Calumba.	Nux vomica.	Orexin.
Chamomile.	Chirata.	Taraxacum.

Uterine Depressants.—Drugs which lower the activity of the uterine contractions:

Opium. Chloroform. Chloral.
Bromids. Viburnum prunifolium.

Vesical Sedatives.—Remedies which lessen irritability of the bladder:

Belladonna. Hyoscyamus.
Opium. Mucilaginous drinks.
Corn-silk.

PART II.

MATERIA MEDICA.

Acacia.—Acacia is a gummy exudation obtained from a shrub growing in western Asia.

Action and Uses.—In therapeutics acacia is used as a demulcent. In pharmacy it is used to suspend insoluble substances in water and to hold together the ingredients in pills and lozenges.

Acetanilid (Antifebrin).—Action and Uses.—This anilin derivative is an antipyretic, analgesic, and antispasmodic. As an antipyretic, it is employed to control high temperature in such diseases as typhoid fever and scarlatina, but the external application of cold (cold pack or cold bath) is generally preferable on account of its stimulant effect. As an analgesic it is used in subduing such functional pains as headache and neuralgia. By relieving pain it also aids in inducing sleep. As an antispasmodic it has been recommended in epilepsy, chorea, and whooping-cough.

Externally, acetanilid is sometimes employed as an antiseptic in place of iodoform.

The effects of a toxic dose are ringing in the ears, deafness, a slow, weak, and compressible pulse, subnormal temperature, slow and shallow breathing, cold sweats, and a blue, livid face.

The treatment of poisoning consists in the application of heat to all parts of the body and the use of heart-stimulants.

As an antiseptic, acetanilid is used as a substitute for iodoform.

Dose, 5 to 10 grains (0.3–0.6 gm.)

Compound Acetanilid Powder (Pulvis Acetanilidi Compositus).—*Dose,* 5 to 15 grains (0.3–1.0 gm.).

ACIDS.

Acetic Acid (Acidum Aceticum).—**Action and Uses.**—Locally, pure acetic acid is used as a caustic in skin-affections.

Acetic Acid, Dilute (Acidum Aceticum Dilutum).—Applied to the skin, acetic acid is a stimulant; sponged over the body, it reduces the temperature and checks perspiration. It is also employed as an astringent in arresting hemorrhage.

Dose, ½ to 1 dram (2–4 c.c.).

Acetic acid in overdose is a corrosive poison, causing severe pain in the throat, extending to the abdomen, profuse purging, and collapse.

Treatment consists in giving large quantities of milk, chalk, magnesia, lime-water, or soap-water.

Arsenous Acid (Arseni Trioxidum; White Arsenic).—Metallic arsenic is inert and is not used in medicine. The preparations are all derived from white arsenic.

Action and Uses.—Taken internally in small doses, arsenic is a general tonic, stomachic, alterative, and antiperiodic. It improves the appetite, digestion, and nutrition, and increases the strength and quantity of the blood. Externally, applied to any part in a concentrated form, it is a caustic; in the dilute form it is an irritant and antiseptic. When applied locally to the broken skin, an

ulcerated surface, or a mucous membrane, it may be absorbed and produce the general effects of the drug upon the system.

Dose, $\frac{1}{40}$ to $\frac{1}{20}$ of a grain (0.0016–0.0032 gm.), usually given after meals, as it is apt to irritate the stomach if given when that organ is empty.

The conditions in which arsenic is most commonly prescribed are neuralgia, chorea, anemia, chronic malaria, phthisis, diabetes, chronic rheumatism, and certain chronic inflammatory skin-diseases.

When a patient is taking arsenic, such symptoms as puffiness about the eyes, griping pains in the abdomen, and slight diarrhea are danger-signals, and when they appear, the drug should be suspended.

Large doses of arsenic produce severe pain in the esophagus, stomach, and abdomen, violent vomiting and purging, severe cramps in the calves of the legs, various eruptions on the skin, swelling of the face, and collapse.

Treatment of Acute Poisoning.—Administer a prompt emetic of mustard and water, give warm demulcent drinks, such as flaxseed tea, milk with white of egg, or flour and water, which will assist the vomiting and envelop the poison. The best antidote is freshly precipitated hydrated sesquioxid of iron in the moist state, which should be given in doses of a tablespoonful every ten minutes. It may be extemporaneously prepared by diluting the tincture of chlorid of iron with water and adding ammonia to precipitate the sesquioxid. Another method used with some success consists in giving a mixture of chalk and castor oil of the consistence of cream, which envelops the particles of poison adhering to the mucous membrane and renders them harmless while being carried through the bowels and evacuated. Heat must be applied to all parts of the body and stimulants given.

Chronic arsenical poisoning may result from the inhalation of dust or vapor arising from wall-paper or other fabrics dyed with arsenic. It is characterized by loss of flesh and strength, asthmatic seizures, pigmentation of the skin, and loss of power and sensation from inflammation of peripheral nerves.

Preparations of Arsenic.—*Arsenic Iodid* (Arseni Iodidum).—*Dose*, $\frac{1}{30}$ to $\frac{1}{10}$ grain (0.0022–0.0065 gm.).

Solution of Arsenous Acid (Liquor Acidi Arsenosi).—*Dose*, 1 to 5 minims (0.06–0.3 c.c.).

Arsenate of Sodium (Sodii Arsenas).—*Dose*, $\frac{1}{30}$ to $\frac{1}{10}$ grain (0.0022–0.0065 gm.).

Cigarettes made of bibulous paper which has been saturated with a solution of sodium arsenate and dried are smoked for the relief of asthma.

Exsiccated or Dried Arsenate of Sodium (Sodii Arsenas Exsiccatus).—*Dose*, $\frac{1}{40}$ to $\frac{1}{15}$ grain (0.0016–0.004 gm.).

Solution of Arsenic Bromid (Liquor Arseni Bromidi; Clemens' Solution).—*Dose*, 1 to 5 minims (0.06–0.3 c.c.).

Solution of Arsenic and Mercuric Iodid (Liquor Arseni et Hydrargyri Iodidi; Donovan's Solution).—*Dose*, 1 to 3 minims (0.06–0.18 c.c.).

Solution of Sodium Arsenate (Liquor Sodii Arsenatis; Pearson's Solution).—*Dose*, 1 to 5 minims (0.06–0.3 c.c.).

Solution of Potassium Arsenite (Liquor Potassii Arsenitis; Fowler's Solution).—*Dose*, 2 to 8 minims (0.12–0.5 c.c.).

When the local action of arsenic is desired, it is given before meals, so that nothing will prevent the action of the drug upon the walls of the stomach and intestines; but when absorption is desired, in order to secure its general action, it is given immediately after meals, so that it will mix with the food and be absorbed. The dose is gradually increased until such symptoms as loss

of appetite, irritation or soreness of the conjunctiva, swelling about the eyes, nausea, or diarrhea arise, after which it is gradually diminished (see chart). Fowler's solution is the liquid preparation most commonly used, and the chart is specially designed for that form:

DOSAGE CHART. FOWLER'S SOLUTION.

Name.....

Bed..... *Ward*..... *Room*..... *Floor*.....

Date..... *Dose, 2 to 8 minims, t.i.d., P. C.*

Increase 1 drop every day until 8 drops are taken three times a day; then as gradually decrease the dose.

Day.	8 A. M.	1 P. M.	6 P. M.	Remarks.
Monday . . .	2	2	2	
Tuesday . . .	3	2	2	
Wednesday . .	3	3	2	
Thursday . .	3	3	3	
Friday	3	4	3	
Saturday . . .	4	4	3	
Sunday . . .	4	4	4	
Monday . . .	4	5	4	
Tuesday . . .	5	5	4	
Wednesday . .	5	5	5	
Thursday . .	5	6	5	
Friday	6	6	5	
Saturday . . .	6	6	6	
Sunday . . .	6	7	6	
Monday . . .	7	7	6	
Tuesday . . .	7	7	7	
Wednesday . .	7	8	7	
Thursday . .	8	8	7	
Friday	8	8	8	

Children, as a rule, bear arsenic better than adults; susceptible persons bear it better if it is given with opium. Tolerance is sometimes established, when large doses can be taken without poisonous effect. It is eliminated by the mucous membrane of the alimentary canal, and by the kidneys, liver, and skin.

Benzoic Acid (Acidum Benzoicum).—(See *Benzoin.*)

Boric Acid (Acidum Boricum; Boracic Acid).—**Action and Uses.**—Boric acid is an unirritating antiseptic. Internally, it is somewhat diuretic, and tends to retard the decomposition of the urine. In large doses it is a gastro-intestinal irritant, producing nausea, vomiting, a feeble, rapid pulse, subnormal temperature, ecchymoses, hiccup, and collapse.

Locally it is used in solution, ointment, or powder, as an application to wounds, burns, scalds, and various skin-diseases, to lessen excessive secretion, irritation, or itching. Mixed with an equal quantity of starch, it is used as a dusting-powder in chapping and excoriation of the skin and to remove the odor of perspiration. It has also an astringent action. A 3 per cent. solution is largely used as a wash in inflammatory diseases of the eye, nose, and throat, and for irrigating the bladder.

To make a 2 per cent. solution add 9 grains to 1 ounce of water.
To make a 3 " " " 14 " to 1 " "

A saturated solution of boric acid is one in which the water dissolves as much as it will of the drug. It is impossible to make a saturated solution of boric acid too strong, because the water cannot take up more than 1 : 30, which is the usual strength used.

Sodium Borate (Sodii Boras; Borax).—*Dose*, 5 to 15 grains (0.3–1.0 gm.).

Camphoric Acid (Acidum Camphoricum).—**Action and Uses.**—Camphoric acid is chiefly used internally in checking the night-sweats of phthisis. Locally, it is sometimes used in sore throat and cystitis.

Dose, 5 to 20 grains (0.3–1.3 gm.).

As a local application to the throat a 1 per cent. solu-

tion is commonly employed, and 0.5 of a 1 per cent. solution is used for washing out the bladder.

Carbolic Acid (Acidum Carbolicum; Phenol; Phenic Acid).—**Action and Uses.**—Carbolic acid is used externally as a caustic, an antiseptic, a disinfectant, and a local anesthetic. Internally it is used as an antiemetic and as a gastro-intestinal antiseptic. As a caustic it is sometimes employed in concentrated form to destroy warts and to purify sloughing wounds. Weak solutions were formerly much used for their antiseptic properties in general surgical work, but more effective agents have been largely substituted. A 5 per cent. solution is very useful for disinfecting soiled clothing, sputa, stools, etc. In the strength of 2 drams to the pint of water it is employed to allay itching in hives, eczema, and jaundice.

In doses of one drop it is often of service in allaying obstinate vomiting and in checking fermentation in flatulent dyspepsia and diarrhea.

Dose, $\frac{1}{2}$ to 2 minims (0.03–0.13 c.c.) in sweetened water.

The strengths of the solutions used for the cleansing of instruments, etc., are 1:40 to 1:20; as a spray or mouth-wash, 1:100 or 1:80; and for a poultice, 1:80 to 1:60. Solutions of the last strength are also used for vaginal douches. It must be remembered that carbolic acid is rapidly absorbed by the skin, mucous membranes, and raw surfaces; for this reason many surgeons have the douche followed with one of plain water. Symptoms of poisoning have been produced by the absorption of the drug from surgical dressings. The prolonged application of the drug, even in weak solutions, in the form of moist dressings, is liable to be followed by gangrene.

The first **evidences of carbolic-acid poisoning** are

a dark discoloration of the urine, due to various products of the oxidation of the acid, giddiness, ringing in the ears, headache, and lassitude. On the appearance of any of these symptoms, the drug should be discontinued.

The *symptoms of a poisonous dose* are burning pain in the throat, stomach, and abdomen, vomiting and purging, cold clammy skin, a rapid, feeble pulse, rapid respirations, collapse, delirium, and death, which may be preceded by convulsions. The mouth and lips may be covered with white corrugated patches from the local action of the drug.

Treatment.—The chemic antidotes are alcohol and Epsom or Glauber's salts. To allay irritation demulcent drinks, such as equal parts of milk and lime-water, white of egg, or flaxseed tea, may be administered. The body-temperature must be kept up by the external application of heat, and heart-failure combated by the hypodermic use of stimulants. Oils or glycerin should not be given, since they aid absorption by dissolving the acid.

Sulphocarbolate of sodium or **Phenolsulphonate of sodium** is a derivative of carbolic acid, and is used internally as an antiseptic. It is without the dangers of carbolic acid. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Chromic Acid (Acidum Chromicum; Chromic Trioxid).—**Action and Uses.**—Chromic acid is used externally as a caustic for the destruction of syphilitic warts and similar growths, its action being deep but slow. It has also been used as an antiseptic, deodorant, and disinfectant, in the strength of 1 to 40 parts of water.

Cinnamic Acid (Acidum Cinnamicum).—**Action and Uses.**—Cinnamic acid, a derivative of cinnamon, balsam of tolu, and other aromatic balsams, has been used both internally and externally in tuberculosis.

Dose, from 1 to 10 minims (0.06–0.6 c.c.) hypodermically.

Citric Acid (Acidum Citricum).—**Action and Uses.**—Citric acid is usually prepared from lemon-juice, and is often used as a substitute for the latter. It is refrigerant, diuretic, and diaphoretic, and has also mild antiseptic properties. It is used in the prevention and cure of scurvy, in rheumatism, in catarrhal jaundice, and as a cooling drink. Locally, it has been employed in arresting hemorrhages from the lungs, nose, and uterus.

Dose, 5 to 15 grains (0.3–1.0 gm.); of the syrup, 1 to 4 drams (4–15 c.c.).

Gallic Acid (Acidum Gallicum).—**Action and Uses.**—Gallic acid is obtained from gall-nuts or from tannic acid by boiling with a weak mineral acid. It differs from tannic acid in not precipitating alkaloids or albumin. It is a feeble astringent. Internally it is used in checking hemorrhage and excessive secretions, as in diarrhea, diabetes, and night-sweats. It is eliminated unchanged by the kidneys.

Dose, 5 to 20 grains (0.3–1.3 gm.), given in pill, solution, or powder. Locally, in the form of an ointment with opium, it is astringent and sedative.

Hydriodic Acid, Dilute (Acidum Hydriodicum Dilutum).—**Action and Uses.**—Hydriodic acid is an alterative, and is used for the same purposes as potassium iodid.

Dose, 10 to 30 minims (0.6–2 c.c.).

Hydrobromic Acid, Dilute (Acidum Hydrobromicum Dilutum).—**Action and Uses.**—The action of dilute hydrobromic acid is similar to that of the bromids, but it is not so powerful, and hence it is less depressing and less apt to cause acne. It is useful in congestive head-

aches, neuralgia, and hysteria. It is sometimes combined with quinin to prevent cinchonism.

Dose, 1 to 2 drams (4–8 c.c.).

Hydrochloric Acid (Acidum Hydrochloricum; Muriatic Acid).—**Action and Uses.**—Dilute hydrochloric acid is a digestant, refrigerant, and tonic. Being a normal constituent of the gastric juice, it is used as an aid to digestion in certain forms of dyspepsia. It is also used as a tonic, and locally as a solvent for carious bone. In continued fevers it often acts favorably as a refrigerant. Locally the strong acid is sometimes used as a caustic in removing warts and other small growths.

Dose, 3 to 6 minims (0.2–0.4 c.c.) well diluted. It should be taken through a glass tube to prevent injury to the teeth.

Symptoms of Poisoning.—Intense burning pain, vomiting and purging of mucous and bloody material, and collapse.

Treatment.—The antidotes are chalk, lime, soap, and soda. After neutralizing the poison vomiting should be encouraged and followed by mucilaginous drinks. Collapse must be combated by the application of heat and the administration of stimulants.

Hydrochloric Acid, Dilute (Acidum Hydrochloricum Dilutum; Dilute Muriatic Acid).—Dilute hydrochloric acid is valuable as an aid to digestion.

Dose, 5 to 20 minims (0.3–1.2 c.c.).

Hydrocyanic Acid or Prussic Acid (Acidum Hydrocyanicum; Dilute Hydrocyanic Acid).—**Action and Uses.**—Hydrocyanic acid is used solely to allay irritation of the peripheral nerves. Thus it is employed internally for the cough of phthisis and chronic bronchitis, for gastralgia and obstinate vomiting, and exter-

nally to subdue the itching in pruritus, eczema, and hives.

Dose, 1 to 5 minims (0.06–0.3 c.c.); as a wash, 20 to 60 minims (1.2–3.7 c.c.) to 1 ounce of water (30 c.c.).

Symptoms of intolerance are heavy headache, giddiness, a peculiar bitter taste in the mouth, and a tight feeling in the stomach. Upon the appearance of any of these symptoms the drug should be stopped and the physician notified.

Poisoning.—*Symptoms.*—The diluted prussic acid is one of the most rapidly fatal poisons, 50 minims (3 c.c.) having proved fatal. The symptoms often commence during the act of swallowing. There is immediate loss of the muscular power; the patient froths at the mouth, staggers, and falls to the ground; the face is livid or pallid; the eyes are glassy and prominent; the pupils dilated and insensible to light; the pulse is slow and full; the respirations are difficult. Death sometimes occurs in violent convulsions. A strong characteristic odor of bitter almonds is exhaled.

Treatment.—Such is the rapidity with which the drug produces its effects that there is rarely time for remedies. Dashing cold water over the face and chest, artificial respiration, the cautious inhalation of ammonia, and the use of stimulants internally and externally may be tried.

Lactic Acid (Acidum Lacticum).—Lactic acid is obtained from the fermentation of milk, and appears as an odorless, colorless, syrupy liquid. It is used chiefly as a caustic. In solutions of from 20 to 80 per cent. it has been found a valuable local remedy in tuberculous laryngitis. Formerly, dilute solutions were used to dissolve false membrane in diphtheria. Internally it is

sometimes used as an antiseptic and astringent in diarrhea of children.

Dose, 5 to 30 minims (0.3–0.2 c.c.) freely diluted; as a local application a solution of 1 : 5 is generally used.

Nitric Acid (Acidum Nitricum; Aqua Fortis).—**Action and Uses.**—Internally, nitric acid is a tonic astringent and antiseptic, and as such is sometimes given with advantage in intestinal dyspepsia associated with loose stools. Externally, in concentrated form, it is a powerful caustic. As a caustic, it is used successfully in gangrenous ulcers, warts, and venereal sores.

Nitric Acid, Dilute (Acidum Nitricum Dilutum).—Dose, 7 to 20 minims (0.3–1.2 c.c.). It should be taken well diluted through a glass tube.

The **symptoms of poisoning** are essentially the same as those of hydrochloric acid, except that the tongue is swollen and of a citron color. The vapor of this acid is destructive to life, and great care must be taken not to inhale the fumes.

The **treatment of poisoning** is the same as in the case of hydrochloric acid.

Nitrohydrochloric Acid (Nitromuriatic Acid; Acidum Nitrohydrochloricum).—**Action and Uses.**—Nitrohydrochloric acid is used internally to stimulate the secretions of the liver and bowel. It is an excellent tonic and stomachic in convalescence from acute diseases. Locally it is employed in the form of baths and fomentations.

Dose, 1 to 5 minims (0.06–0.3 c.c.) well diluted; of the dilute, 5 to 10 minims (0.3–0.6 c.c.).

For *fomentations*, 1 to 2 drams to 1 pint of water.

For *sponging* or *general bath*, about 6 ounces of acid to 4 gallons of hot water (temperature, 98° F.).

The first **symptoms of intolerance** are pains in the abdomen, and diarrhea, thirst, and restlessness.

Poisoning.—The *symptoms* are severe burning pain extending from mouth to stomach, vomiting and purging of bloody material, and collapse.

Treatment.—On account of the corrosive action, antidotes can rarely be employed in time to prevent serious injury.

The antidotes are magnesia, lime, whitewash, and soap. Demulcents like white of egg and oil should be given to allay irritation. External heat and stimulants are required on account of the collapse.

Oleic Acid (Acidum Oleicum).—**Action and Uses.**—Oleic acid is used in medicine solely as a vehicle for remedies to be applied to the skin. It is a fatty substance, and is more quickly absorbed by the skin than the ointments.

Oxalic Acid (Acidum Oxalicum).—**Action and Uses.**—Oxalic acid is a powerful germicide and is chiefly used in surgery as a disinfectant for the hands. It has been used internally in cases of retarded menstruation.

Dose, $\frac{1}{4}$ to $\frac{1}{8}$ grain (0.012–0.02 gm.).

Howard A. Kelly, of the Johns Hopkins Hospital, claims that permanganate of potassium and oxalic acid afford the only known practical method of perfectly disinfecting the hands of the surgeon, and that in this process the oxalic acid, not the permanganate of potassium, is the essential disinfecting agent.

Poisoning.—*Symptoms.*—Oxalic acid is a certain and rapidly acting poison. It bears a close resemblance to Epsom salts, and has frequently been the cause of accidental death by being mistaken for that drug. When taken in large dose, it causes an intensely acrid taste,

burning sensation in the throat extending to the stomach, vomiting and purging, intense pain in abdomen, cold, clammy skin, an irregular feeble pulse, unconsciousness, and collapse. There may be symptoms pointing to the nervous system, such as convulsions, stupor, and paralysis.

Treatment.—The best antidote is a paste of chalk and milk or chalk and water; if chalk is not at hand, magnesia, whitewash, or any preparation of lime should be given freely in large doses. After neutralizing the poison, vomiting should be encouraged and followed by mucilaginous drinks or lime-water and sweet oil. If collapse occurs, apply heat and give stimulants.

Phosphoric Acid, Dilute (Acidum Phosphoricum Dilutum).—**Action and Uses.**—The action of phosphoric acid is somewhat similar to that of hydrochloric acid, and bears no relation to that of phosphorus. It is sometimes employed to allay thirst in febrile diseases and diabetes, and as a mild stomachic in atonic dyspepsia.

Dose, 10 to 60 minims (0.6–4.0 c.c.).

Picric Acid (Acidum Picricum).—Picric acid is a product obtained by acting with nitric acid on a compound formed by dissolving carbolic acid in sulphuric acid. It is a yellow, crystalline powder, freely soluble in water. In pure form it acts as a caustic. Poisonous doses cause vomiting, diarrhea, yellowness of the skin, mucous membranes, and urine, convulsions, and collapse. It possesses some power as a germicide.

Gauze wet with a 1 per cent. solution of picric acid makes a useful dressing in burns of the first and second degree, in acute eczema, and in herpes zoster.

Pyrogallic Acid.—(See *Pyrogallol.*)

Salicylic Acid (Acidum Salicylicum).—**Action and Uses.**—Salicylic acid is an organic acid contained in the

oils of wintergreen and birch, but chiefly prepared artificially from carbolic acid. It appears as a fine white powder, odorless, of a sweetish, acrid taste. Internally it is used as an antirheumatic, analgesic, and intestinal antiseptic. Externally it is used as an antiseptic, as a dusting-powder for sweating feet, and as a solvent remedy for corns. It is eliminated by all the secretions, but chiefly by the urine, and when taken in very large doses, imparts to the latter a greenish color. As it is more irritating to the stomach than its salts,—sodium, ammonium, and strontium salicylate,—the latter are generally selected for internal use.

Dose, 5 to 15 grains (0.3–1.0 gm.), given after meals well diluted. As an antiseptic, 1 : 60 is the usual strength used.

Symptoms of intolerance are headache, ringing in the ears, and fulness in the head. If continued, these symptoms become intensified and are followed by deafness, dimness of vision, a slow, weak pulse, free perspiration, fall in temperature, a dark-green discoloration of the urine, delirium, and rapid, shallow breathing, unconsciousness, and asphyxia.

Sulphuric Acid (Acidum Sulphuricum; Oil of Vitriol).—**Action and Uses.**—Pure sulphuric acid is a powerful irritant and caustic. It is rarely used internally.

Sulphuric Acid, Dilute (Acidum Sulphuricum Dilutum).—**Action and Uses.**—The dilute sulphuric acid is a refrigerant, tonic, astringent, and hemostatic.

Dose.—Sulphuric acid, 1 to 2 minims (0.06–0.12 c.c.); dilute sulphuric acid, 10 to 20 minims (0.6–1.2 c.c.); aromatic sulphuric acid (elixir of vitriol), 5 to 20 minims (0.3–1.2 c.c.), well diluted. Sulphuric acid should be taken through a quill or a glass tube to prevent injuring the teeth.

The **symptoms of poisoning** and the **treatment** are the same as those of hydrochloric acid poisoning.

Sulphurous Acid (Acidum Sulphurosum).—**Action and Uses.**—This is a watery solution (6 per cent.) of sulphurous acid gas, appearing as a colorless solution with an odor of burning sulphur. It is a germicide and deodorant. It is sometimes employed as a local remedy in ring-worm and other parasitic skin diseases. In the gaseous form, generated by burning sulphur, sulphurous acid has been extensively used as a disinfectant for rooms. It is, however, less reliable and more injurious to fabrics than formaldehyd.

Tannic Acid (Acidum Tannicum; Tannin).—This is a vegetable acid obtained from nut-galls. It is a pale yellow, odorless, bulky powder, with very strong astringent properties. It is used as an astringent, a hemostatic, and an antidote. As an astringent it is employed to check excessive secretions, especially from mucous membranes. As a hemostatic, it may be given in full doses in the various forms of internal hemorrhage. As it forms insoluble compounds with tartar emetic and the vegetable alkaloids, it is a useful antidote in poisoning by one of these drugs.

Dose, 2 to 10 grains (0.13–0.6 gm.).

Preparations.—*Glycerite of Tannic Acid* (Glyceritum Acidi Tannici).—For local use.

Styptic Collodion (Collodium Stypticum).—For external use in bleeding.

Ointment of Tannic Acid (Unguentum Acidi Tannici).—For external use.

Troches of Tannic Acid (Trochisci Acidi Tannici).—Each contains 1 grain (0.06 gm.) of the acid.

Tannalbin is a combination of tannic acid and albumin,

liberating free tannic acid in the bowel. It is used in diarrhea in doses of from 5 to 15 grains (0.3–1.0 gm.) in powder or some mucilaginous vehicle.

Tannigen, a compound prepared by the action of strong acetic acid on tannic acid. Like tannalbin, it escapes decomposition in the stomach, but liberates free tannic acid in the bowel. It is used for the purpose and in the same dose as tannalbin.

Tannoform, a combination of tannic acid and formaldehyd. The dose is from 1 to 5 grains (0.06–0.3 gm.). It is most too irritating, however, for internal use. Mixed with powdered talc or zinc oxid (1 to 3) it makes an excellent local application in excessive sweating of the feet.

Tartaric Acid (Acidum Tartaricum).—**Action and Uses.**—Tartaric acid is a vegetable acid prepared from cream of tartar. It appears as colorless crystals or as a white powder having a strongly acid taste. It is employed as a laxative and diuretic. It is one of the ingredients in Seidlitz powders.

Dose, 5 to 30 grains (0.3–2.0 gm.), well diluted.

Poisoning.—*Symptoms.*—These are burning pain in the throat and the stomach, vomiting, purging, and collapse.

Treatment.—Chalk and water, magnesia, soapsuds, or lime-water may be given, followed by demulcent drinks.

Aconite (Aconitum; Monkshood).—**Action and Uses.**—Aconite is the dried root of a perennial plant (*Aconitum napellus*) growing in the temperature zones. Its chief action is on the circulation. It lowers the blood-pressure by depressing the heart, and slows the pulse by

stimulating the inhibitory nerves. When rubbed into the skin or taken internally in large doses, it exerts a benumbing effect by depressing the peripheral sensory nerve-fibers. In the febrile state moderate doses of aconite cause a slight fall of temperature and induce mild diaphoresis. In large doses the drug is a depressant to respiration.

Aconite is employed internally in acute febrile diseases to quiet the circulation, to lower temperature, and to promote diaphoresis. It is sometimes useful in palpitation and excessive hypertrophy of the heart. It has been much used both locally and internally in various forms of neuralgia. In small doses it serves to check obstinate vomiting.

Poisoning.—The *symptoms of poisoning* are numbness and tingling of the lips, tongue, fingers, or whole body; a slow, weak pulse; slow, shallow respirations; subnormal temperature; pallor of skin; cold sweats; and death in collapse. Convulsions sometimes occur before death.

Treatment.—If the symptoms are not very severe, emetics should be given or the stomach washed out with the stomach-pump, the vomited matter being received in a towel, the patient having been placed in bed with the head lowered and the foot of the bed elevated. If the symptoms are severe, emetics should not be given without the sanction of a physician, as the vomiting might arrest the action of the heart. Heat must be applied over the heart and to all parts of the body. Heart-stimulants should be given hypodermically, and artificial respiration practised if necessary.

Dose.—*Extract of Aconite* (Extractum Aconiti).—From $\frac{1}{6}$ to $\frac{1}{4}$ grain (0.01–0.016 gm.).

Tincture of Aconite (Tinctura Aconiti).—From 3 to 15 minims (0.18–0.92 c.c.).

Fluidextract of Aconite (Fluidextractum Aconiti).—From 1 to 2 minims (0.06–0.12 c.c.).

Aconite liniment (St. Jacob's Oil, a patent medicine) is a weak aconite liniment for external use which contains also alcohol, turpentine, ether, water, and coloring-matter.

Aconitin (Active Principle of Aconite).—From $\frac{1}{200}$ to $\frac{1}{150}$ grain (0.0003–0.0004 gm.).

Aconite is rapidly absorbed, and when applied locally, its action should be watched. The pulse, temperature, and respirations should be taken before the medicine is given. The patient should be kept in bed, if possible, and not allowed to make any exertion or sudden movement. Cold drafts must be guarded against.

Adeps Lanæ Hydrosus.—(See *Lanolin.*)

Adonidin.—This is an intensely bitter substance, obtained from a perennial plant (*Adonis vernalis*) growing in northern Europe and Asia. It affects the circulation somewhat like digitalis. Its action, however, while more prompt, is less certain and powerful.

Dose, $\frac{1}{8}$ to $\frac{1}{4}$ grain (0.008–0.01 gm.).

Adrenalin.—This is a crystalline body obtained from suprarenal glands. It is usually marketed in the form of a 1 : 1000 solution. Locally, on raw surfaces or mucous membranes, it is an exceedingly powerful constrictor of the blood-vessels, even one drop of a 1 : 50,000 solution blanching the conjunctiva within a minute. Administered subcutaneously or intravenously, it raises the blood-pressure by stimulating the heart and constricting the peripheral vessels. Locally, solutions of adrenalin (1 : 5000 to 1 : 1000) are useful in checking hemorrhage from mucous membranes, especially during

operations. Somewhat weaker solutions have been found useful in hay-fever. In hemorrhage of the stomach or bowel from 10 to 30 minims (0.6–2.0 c.c.) of the 1 : 1000 solution are sometimes given by the mouth. Intravenous injections have been recommended in surgical shock, collapse, and heart-failure during anesthesia.

Æther.—(See *Ether.*)

Agaricin.—This is a crystalline body obtained from a fungus growing on the larch-tree. It is an impure form of agaric acid. It is chiefly employed to check excessive perspiration.

Dose.—Of *agaricin*, $\frac{1}{4}$ to 1 grain (0.016–0.065 gm.); of *agaric acid*, $\frac{1}{6}$ to $\frac{1}{2}$ grain (0.01–0.03 gm.).

Alcohol.—Action and Uses.—Externally, alcohol is used as a stimulating lotion and antiseptic in cleansing the skin before operations. Rubbed into the skin it also prevents bed-sores by hardening the epidermis. Internally, in moderate amounts, alcohol stimulates the heart and nervous system, favors gastric digestion, increases the sweat and urine, lowers temperature, and, being largely burnt up in the body, acts as an auxiliary food. It is eliminated from the body by the lungs, skin, bowels, and kidneys. As a general stimulant, alcohol is valuable in low fevers and wasting diseases. When doing good, in febrile diseases, alcohol lowers the temperature, strengthens and slows the pulse and respirations, moistens the tongue, cools the skin, lessens delirium, and induces sleep. Opposite effects indicate that it is doing harm rather than good. Persistence of the odor of alcohol on the breath for more than fifteen or twenty minutes after administration is also an indication of excessive dosage.

As a pure heart-stimulant, it is of service in combating the various forms of sudden heart-failure. *Champagne*

is very useful in obstinate vomiting, especially when given ice-cold.

As alcohol has the power of counteracting the caustic action of carbolic acid, it is, when administered early, a valuable antidote in carbolic-acid poisoning.

Preparations.	Percentage of alcohol.	Dose.
Absolute alcohol	99	Only used externally.
Alcohol	91	½ to 2 drams (2– 8 c.c.)
Dilute alcohol	41	1 to 4 " (4–15 c.c.)
Whisky (spiritus frumenti)	45 to 50	1 to 4 " (4–15 c.c.)
Brandy (spiritus vini gallici)	45 to 50	1 to 4 " (4–15 c.c.)
Gin (spiritus juniperi)	45 to 50	1 to 4 " (4–15 c.c.)
White wine (vinum album)	10 to 14	4 to 8 " (15–30 c.c.)
Red wine (vinum rubrum)	10 to 14	4 to 8 " (15–30 c.c.)
Sherry wine (vinum xericum)	15 to 20	4 to 8 " (15–30 c.c.)
Port wine (vinum portense)	15 to 20	4 to 8 " (15–30 c.c.)
Claret	8 to 10	8 to 16 " (30–60 c.c.)
Champagne	10 to 13	8 to 16 " (30–60 c.c.)
Ale, beer, and porter	3 to 6	

The ingestion of large quantities of alcohol produces the following symptoms: mental excitement, flushing of the face, quickening of the pulse and respiration, then incoherent speech, loss of coördination, vomiting, delirium, subnormal temperature, dilated pupils, and, finally, stupor and coma. Death may result from failure of the heart or respiration.

Treatment of Poisoning.—Emetics should be given, or the stomach washed out with the stomach-pump. Cold should be applied to the head and heat to other parts of the body. Mucilaginous drinks, such as linseed tea, white of egg, or milk, are useful in allaying gastric irritation. If the pulse indicates heart-failure, heart-stimulants should be given hypodermically.

Allium.—(See *Garlic.*)

Almonds (Amygdala Amara, Bitter Almond; Amygdala Dulcis, Sweet Almond).—**Action and Uses.**—The bitter almond yields hydrocyanic acid in the presence of water. It is used to allay cough in pulmonary diseases and as a flavoring agent.

The sweet almond is a demulcent and nutrient. As it contains no starch, it is sometimes ground into a flour and made into bread (almond bread) for the use of diabetic patients.

Externally it is applied to slight excoriations. It is said also to relieve freckles, sunburn, and to whiten the skin.

Dose.—*Water of Bitter Almond* (Aqua Amygdalæ Amaræ).—From 1 to 2 drams (4 to 8 c.c.).

Oil of Bitter Almond (Oleum Amygdalæ Amaræ).—From $\frac{1}{4}$ to $\frac{1}{2}$ minim (0.015–0.03 c.c.).

Spirit of Bitter Almond (Spiritus Amygdalæ Amaræ).—From 3 to 10 minims (0.18–0.6 c.c.).

Syrup of Bitter Almond (Syrupus Amygdalæ Amaræ).—From 1 to 2 drams (4–8 c.c.).

Emulsion of Sweet Almond (Emulsum Amygdalæ).—From 1 to 16 drams (4–60 c.c.).

Expressed Oil of Sweet Almond (Oleum Amygdalæ Expressum).—From 1 to 8 drams (4–30 c.c.).

Syrup of Sweet Almond (Syrupus Amygdalæ).—From 1 to 2 drams (4–8 c.c.).

Aloes (Aloe).—**Action and Uses.**—Aloes is the dried juice of several species of *aloe*, a plant resembling, to some extent, the American century plant. It contains a neutral principle, *aloin*. Aloes acts as a stomachic, cathartic, and emmenagogue. As its cathartic action is very slow, it should be given before supper, when an action of the bowels will usually take place next

morning about breakfast time. As an emmenagogue, it is often given with nux vomica, iron, and myrrh. On account of its nauseous and bitter taste, it is best given in pill form.

Aloin (Aloinum).—From $\frac{1}{4}$ to $\frac{1}{2}$ grain (0.16–0.13 gm.).

Dose.—*Aloes* (Aloe), 2 to 10 grains (0.13–0.65 gm.).

Purified aloes (Aloe purificata), 2 to 10 grains (0.13–0.65 gm.).

Tincture of aloes (Tinctura aloes), 1 to 2 drams (4–8 c.c.).

Extract of aloes (Extractum aloes), $\frac{1}{2}$ to 5 grains (0.03–0.3 gm.).

Tincture of aloes and myrrh (Tinctura aloes et myrrhæ), 1 to 2 drams (4–8 c.c.).

Enema of aloes contains: Aloes, 40 grains; carbonate of potassium, 15 grains; mucilage of starch, 10 ounces.

Althea (Althæa; Marshmallow).—Action and Uses.—Marshmallow is used internally as a demulcent and externally as a poultice.

Alum (Alumen; Aluminum and Potassium Sulphate).—Action and Uses.—Alum is a powerful astringent, a styptic, and an emetic.

Dose.—As an astringent, the dose is 5 to 15 grains (0.3–1.0 gm.).

Given as an emetic, 1 to 4 drams (4.0–15.5 gm.).

As a gargle, 1 ounce to a pint of sweetened water.

As a spray for the throat, 20 grains to an ounce of water.

As a vaginal wash, 2 to 5 grains to a pint of water.

To check perspiration, 2 grains to an ounce of water.

Dried alum is used to prevent bed-sores and as a mild escharotic.

Ammonia.—Action and Uses.—Internally, ammonia is a heart-stimulant, a respiratory stimulant, and an antacid. Externally it is a counterirritant. Applied locally to the skin and allowed to evaporate, it produces simply

redness, but if used in concentrated form and evaporation is prevented, it soon produces a blister. When employed in urgent cases of heart-failure, it is best injected into one of the veins of the leg, since its subcutaneous injection is very apt to cause sloughing. Inhaled to prevent fainting or drowsiness, its use should not be continued too long, as it irritates the mucous membrane of the air-passages.

Ammonia poisoning is characterized by severe burning in the throat, griping abdominal pains, vomiting and purging of bloody material, great difficulty in breathing, and collapse.

Treatment.—This consists in the prompt use of weak acids, such as vinegar and water or lemon-juice, to counteract the alkali, and of large quantities of oil or milk. Cold must be applied to the head and heat to the feet. Heat should not be applied to the body, as it favors the action of the drug, while cold has the opposite effect.

Preparations and their Doses.—*Water of Ammonia* (Aqua Ammoniæ).—From 10 to 20 minims (0.6–1.2 c.c.).

Spirit of Ammonia (Spiritus Ammoniæ).—From 10 to 60 minims (0.6–4.0 c.c.).

Stronger Water of Ammonia (Liquor Ammoniæ Fortior).—Used only externally as a counterirritant and a vesicant.

Aromatic Spirit of Ammonia (Spiritus Ammoniæ Aromaticus).—Used as a carminative in aiding the expulsion of gas from the stomach and intestine, as an antacid in counteracting the acidity of the stomach, and as a general stimulant in relieving faintness and depression. *Dose*, ½ to 1 dram (2–4 c.c.).

Ammoniac (Ammoniacum).—This is a gum-resin obtained from a plant (*Dorema ammoniacum*) growing in Persia.

Action and Uses.—It is occasionally employed as a stimulant expectorant. Used locally it is a stimulant and mild counterirritant.

Dose, 1 to 30 grains (0.65–2.0 gm.).

Emulsion (Emulsum Ammoniaci).—From 1 to 4 drams (15–30 c.c.).

Ammoniac plaster with mercury is used externally.

Ammonium Acetate (Ammonii Acetas).—This salt is used in medicine in the form of an aqueous solution (liquor ammonii acetatis; spirit of mindererus). It is a mild diaphoretic, diuretic, and antacid. When used as a diaphoretic, it is generally given with the sweet spirits of niter. The patient must be kept warm, for when the skin is cool, it acts as a diuretic.

Dose, 1 to 8 drams (4–30 c.c.).

Ammonium Bromid (Ammonii Bromidum).—This drug is employed as a nerve-sedative and for the same purposes as bromid of potassium, though it is less depressing than the potassium salt. When given together, a better result is often obtained than when either drug is given alone. It should be well diluted, as it is somewhat irritating to the stomach.

Dose, 5 to 30 grains (0.3–4.0 gm.).

Ammonium Carbonate (Ammonii Carbonas).—This drug is a powerful heart- and respiratory stimulant and a stimulant expectorant. Its stimulant and expectorant properties make it a useful remedy in pneumonia and severe forms of acute bronchitis.

Dose, 1 to 10 grains (0.06–0.6 gm.).

Ammonium Chlorid (Ammonii Chloridum).—Unlike ammonium carbonate, this drug has no stimulant effect upon either the heart or the respiration. It does, however, exert a stimulant effect upon mucous membranes, espe-

cially those of the respiratory and gastro-intestinal tracts. It is a valuable expectorant in the later stages of acute bronchitis. It is also useful in jaundice the result of catarrh of the bile-ducts. It sometimes affords relief in muscular rheumatism and in neuralgia of the ovarian type.

Dose, 5 to 15 grains (0.3–1.0 gm.).

Ammonium Iodid (Ammonii Iodidum).—This salt is used internally as an alterative and absorbent. It resembles iodid of potassium in its action.

Dose, 2 to 5 grains (0.13–0.32 gm.).

Ammonium Valerate (Ammonii Valeras).—This salt is used as a nerve-sedative in nervousness, hysteria, and neurasthenia.

Dose, 10 to 15 grains (0.6–1.0 gm.) in capsules or elixir.

Amyl Nitrite (Amylis Nitris).—The nitrites are salts formed by the union of nitrous acid with a base. Amyl nitrite appears as a pale-yellow liquid having a fruity odor and an aromatic taste. It is freely soluble in alcohol and ether, but almost insoluble in water. It should be kept in dark-colored bottles, in a cool dark place, remote from light and fire.

Action and Uses.—The chief physiologic action of nitrite of amyl is upon the spinal cord and the circulation. Under its influence arterial pressure falls, from paralysis of the blood-vessel walls. At the same time the heart is directly or indirectly stimulated, the number and force of its contractions being increased. This period of stimulation after a moderate dose gradually subsides into the normal state, but after a toxic dose it passes into one of cardiac paralysis with a final arrest of the heart in diastole.

The motor and reflex centers are depressed, owing to a direct action of the drug upon the motor side of the

spinal cord. The sensory nerves and centers are not influenced.

Nitrite of amyl is used as a heart-stimulant in sudden heart-failure, and as a depressomotor in angina pectoris and the convulsions of epilepsy, tetanus, and strychnin-poisoning. It is rarely used in puerperal convulsions on account of the danger of uterine relaxation and post-partum hemorrhage. Its action is very quick and transient, it being absorbed and eliminated with great rapidity.

Dose.—Internally, 1 to 2 minims (0.06–0.12 c.c.); by inhalation, 1 to 5 minims (0.06–0.3 c.c.).

For inhalation it is prepared in pearls of thin glass, each containing from 2 to 4 minims. One of these is crushed in a handkerchief or towel, the broken glass shaken off, and the fumes inhaled. It produces a sense of fulness and throbbing in the head, roaring in the ears, flushing of the face, and increased action of the heart and respiration, all of which quickly disappear. The patient should, if possible, be instructed to inhale the drug slowly, and should be prepared for the effects of it.

A **poisonous dose** produces all the *symptoms* mentioned above, and, in addition, a cold, clammy skin, a feeble, slow pulse, cyanosis, restlessness, anxiety of mind, irregular respirations, and complete muscular relaxation. Death results from paralysis of the heart or respiration.

Treatment.—Heart-stimulants, such as brandy, digitalis, strychnin, or atropin, may be given hypodermically. Hot and cold douches should be applied alternately to the body, and cold to the head. Artificial respiration should be employed if necessary.

Amylum.—(See *Starch.*)

Anise (Anisum).—**Action and Uses.**—Anise is the dried fruit of a small plant (*Pimpinella anisum*) growing

in North America and southern Europe. It contains an aromatic volatile oil. It is employed as a carminative and as a flavoring agent.

Dose, 5 to 10 grains (0.32–0.65 gm.).

Oil of Anise (Oleum Anisi).—From 2 to 5 minims (0.12–0.3 c.c.).

Spirit of Anise (Spiritus Anisi).—From 1 to 2 drams (4–8 c.c.).

Anthemis.—(See *Chamomile.*)

Antimony (Antimonium).—Antimony itself is not used in medicine. The chief preparation is tartar emetic.

Tartar Emetic (Antimonii et Potassii Tartras; Antimony and Potassium Tartrate).—*Action and Uses.*—Applied locally to the skin, tartar emetic is a counter-irritant, producing an eruption of small papules which soon become pustules. It is seldom used locally. Internally in small doses it is a diaphoretic and expectorant. In large doses it is an emetic, emesis being partly from local and partly from centric irritation. It is a powerful depressant to the circulation, even in small therapeutic doses lessening the force and rapidity of the pulse. Large doses cause great muscular relaxation, nausea, vomiting, purging, faintness, and reduction in the force of the pulse and lowered temperature.

Dose, $\frac{1}{20}$ to $\frac{1}{10}$ grain (0.0032–0.006 gm.). As an emetic, $\frac{1}{2}$ to 1 grain (0.032–0.065 gm.).

Compound Syrup of Squill (Syrupus Scillæ Compositus).—It is commonly known as "Coxe's Hive Syrup," and is much used as a home remedy for children. It is an expectorant and an emetic. It should not be given without the sanction of a physician, as it contains $\frac{3}{4}$ of a grain of tartar emetic to the ounce.

Dose, 10 to 30 minims (0.6–1.8 c.c.). As an emetic

for a child, 30 to 60 minims (0.6–3.7 c.c.). It must be given cautiously to children.

Wine of Antimony (Vinum Antimonii).—Used as an expectorant and sedative.

Dose, 10 to 30 minims (0.6–1.8 c.c.). As an emetic, ½ to 1 ounce (15–30 c.c.).

Antimony Poisoning.—*Symptoms.*—Strong metallic taste in mouth, a sense of burning in the throat, difficulty of swallowing, violent pain in stomach, followed by vomiting and purging of watery material, a small rapid pulse, cold clammy skin, faint respirations, cramps in the calves of the legs, subnormal temperature, cutaneous anesthesia, and collapse.

Treatment.—The patient should be put to bed and the foot of the bed raised. Mucilaginous drinks should be given freely. The antidote is tannic acid. The stomach-pump should be used, and the patient be allowed to vomit upon towels without rising. Stimulants and external heat are necessary to overcome the depression.

Antipyrin (Antipyrina).—**Action and Uses.**—This anilin derivative occurs as a white, crystalline powder, odorless, and of a slightly bitter taste. Unlike acetanilid and phenacetin, it is freely soluble in water. Like acetanilid, it lowers temperature in febrile states, probably by directly acting upon the heat-regulating centers in the brain, relieves functional pains, like headache and neuralgia, and acts as an antispasmodic, being particularly useful in some cases of epilepsy and in whooping-cough. While probably slightly less poisonous than acetanilid, its frequent or long-continued use is very apt to be followed by impaired nutrition, anemia, and nervous exhaustion. Even in small doses (5 grains) it occasionally

produces severe prostration and cyanosis. In some persons it induces a rash resembling that of measles.

Dose, 5 to 15 grains (0.3–1.0 gm.) in powders, in capsules, or in solution with some agreeable syrup.

Poisoning.—*Symptoms.*—Marked cyanosis, feeble breathing, a weak, irregular pulse, free perspiration, subnormal temperature, dilatation of the pupils, muscular relaxation, and collapse.

Treatment consists in applying heat to the body and in using heart-stimulants. Artificial respiration and oxygen inhalations are also useful.

Antipyrin Salicylate (Salipyrin).—This compound combines to some extent the antipyretic and analgesic properties of antipyrin with the antirheumatic properties of salicylic acid.

Dose, 5 to 30 grains (0.3–2.0 gm.).

Antitoxins.—The antitoxin treatment of disease is based upon the fact, established by modern bacteriologic research, that the blood-serum of an animal which has been rendered artificially immune against a certain disease, when injected into a susceptible animal, protects that animal from the same disease, and, moreover, in some instances exerts a curative influence upon the disease already acquired. The artificial immunity of the animal is secured by injecting into it specific micro-organisms in an attenuated form or minute doses of virulent specific micro-organisms, or dead bacteria with their contained toxic principles (toxins), or the serum of an animal that has been previously protected from the disease by one of the methods just enumerated. To the curative principle contained in the blood-serum of the immunized animal the name "antitoxin" has been applied.

Antitoxin of Diphtheria.—This antitoxin is obtained from horses which have been rendered artificially immune by repeated injections, extending over several weeks, of minute but increasing quantities of diphtheria toxin secured by filtering a culture of diphtheria bacilli in nutrient broth. As the micro-organisms themselves are not injected, the horse does not become infected, but gradually acquires a tolerance for the poison, and ultimately develops in his blood a substance (antitoxin) having the power of neutralizing that poison. At the proper time the animal is bled and the serum is carefully separated from the clot, filtered, and standardized. The strength of the serum is measured in units, a unit containing the amount of antitoxin required to save the life of a guinea-pig which has been injected with 100 fatal doses of toxin.

Since the introduction of the antitoxin treatment the mortality of diphtheria has fallen off more than 50 per cent. The earlier in the disease the serum is used, the more brilliant the results. Injected into healthy subjects it affords immunity against diphtheria, the period of protection, however, rarely lasting more than two or three weeks.

Dose.—This varies with the age of the patient, the severity of the attack, and at the period of the disease at which treatment is instituted. The dose may be said to range between 2000 and 5000 units. Fortunately, overdoses cause no serious disturbance. To be most effective, antitoxin must be given hypodermically. In administering the remedy, the skin over the part selected for the injection and the syringe should be carefully sterilized. The needle may be inserted into the loose subcutaneous tissue of the pectoral region, side of the abdomen, or interscapular space. Massage of the swelling induced

by the injection is not advisable. Joint pains, cutaneous rashes, or a temporary rise of temperature may follow the treatment.

The preventive dose of diphtheria antitoxin is from 300 to 500 units.

Antitoxin of Tetanus.—This is obtained by inoculating the horse with increasing doses of tetanus toxin. It has not proved so successful as the antitoxin of diphtheria, because the toxin of tetanus is so much more virulent than that of diphtheria, and, moreover, because the diagnosis of tetanus cannot be made before the nerve-centers are thoroughly under the influence of the poison.

The *dose* of the serum as an antidote is from 20 to 50 c.c.; in suspicious wounds as a preventive, from 5 to 10 c.c.

Antistreptococcus Serum.—This serum is obtained from the horse, the animal having received repeated injections of streptococcus cultures. It has been recommended in the treatment of various forms of septicemia, but its value cannot be said to have been absolutely demonstrated. As the strength of serum is notably impaired by keeping, preparations more than two or three weeks old should not be used. The dose of the serum is from 20 to 30 c.c. several times a day.

Antipneumococcic Serum.—This serum is obtained from horses which have been repeatedly inoculated with virulent cultures of pneumococci. According to most observers, it has not materially lowered the mortality of croupous pneumonia.

Apiol.—**Action and Uses.**—Apiol is an oleoresin obtained from garden parsley. It is used as a stimulating emmenagogue.

Dose, 5 to 10 minims (0.3–0.6 c.c.) in capsules.

Full doses produce headache, giddiness, ringing in the ears, and mild intoxication.

Apocynum (Canadian Hemp).—**Action and Uses.**—Apocynum is the root of a perennial plant (*Apocynum cannabinum*) growing in North America. It has an action on the circulation resembling that of digitalis. It is an active diuretic. In large doses it causes vomiting and purging. It is sometimes used as a diuretic in cardiac and renal dropsy, but it is prone to disturb the stomach.

Dose.—Of the fluid extract, 5 to 20 minims (0.3–1.2 c.c.). Of the decoction, 1 to 2 ounces, made by boiling $\frac{1}{2}$ ounce of the dried root in 1 pint of water.

Apocynin, the active principle of apocynum, is said to be a heart-tonic. *Dose*, $\frac{1}{2}$ to 2 grains (0.032–0.13 gm.).

Apomorphin Hydrochlorid (Apomorphinæ Hydrochloridum).—**Action and Uses.**—This compound is produced by the action of hydrochloric acid on morphin in the presence of intense heat. It is used as a quickly acting emetic and sedative expectorant. As solutions of the drug soon spoil and become poisonous, it should be freshly dissolved when required. As an emetic it is always administered hypodermically, and is especially indicated when a speedy result is necessary, when the patient is unable to swallow, and when the stomach is severely inflamed. Vomiting occurs in from five to twenty minutes after its injection.

Dose.—As an emetic, $\frac{1}{10}$ to $\frac{1}{8}$ grain (0.0065–0.013 gm.) for an adult, hypodermically; it may be repeated in fifteen minutes.

As an emetic for a child, $\frac{1}{20}$ grain (0.0032 gm.).

As an emetic for an infant, $\frac{1}{30}$ to $\frac{1}{15}$ grain (0.0021–0.0043 gm.).

As an expectorant, $\frac{1}{15}$ to $\frac{1}{10}$ grain (0.004–0.016 gm.), by the mouth.

Arbutin (Ursin).—**Action and Uses.**—Arbutin is the active principle of uva ursi. It is used as a stimulating diuretic.

Dose, 2 to 5 grains (0.13–0.3 gm.).

Argyrol.—(See *Silver.*)

Aristol (Thymol Iodid).—**Action and Uses.**—Aristol is a reddish-brown powder containing about 45 per cent. of iodin. It is used in surgery as a substitute for iodoform. It has not the disagreeable odor of iodoform, and its use seems to be attended with less danger of poisoning. It is used in the form of fine powder or ointment, the strength of the latter varying from $\frac{1}{2}$ to 1 dram (2–4 gm.) to 1 ounce (30 gm.) of pure lard.

Arnica (Arnicæ).—**Action and Uses.**—Arnica is a popular rubefacient remedy for sprains, bruises, and muscular rheumatism. It is an irritant, and increases the circulation of the skin. In susceptible persons its application is occasionally followed by a severe inflammation of the skin. It has been used internally in rheumatism, dysentery, bronchitis, and certain nervous diseases, but it is of very doubtful value. The tincture is the preparation generally preferred for external use.

Tincture of Arnica (Tinctura Arnicæ).—From 10 to 30 minims (0.6–1.8 c.c.).

Extract of Arnica Root (Extractum Arnicæ Radicis).—From 3 to 5 grains (0.2–0.32 gm.).

Fluidextract of Arnica Root (Fluidextractum Arnicæ Radicis).—From 5 to 10 minims (0.3–0.6 c.c.).

Arsenic.—(See *Acids.*)

Asafetida. (Asafœtida).—**Action and Uses.**—Asa-

fetida is a gum-resin obtained by incising the roots of a plant (*Ferula fœtida*) growing in Persia and neighboring countries. It is an antispasmodic, nerve-stimulant, carminative, and stimulant expectorant.

Dose.—From 3 to 10 grains (0.2–0.65 gm.) of the *tincture* (tinctura asafœtidæ).

Of the *emulsion* (emulsum asafœtidæ) 4 to 8 drams (15–30 c.c.).

Of the *pills* (pilulæ asafœtidæ), 1 to 3 pills.

Plaster (Emplastrum Asafœtidæ).—Used when an antispasmodic and counterirritant action is needed.

Enema Asafœtidæ.—This acts as a carminative, laxative, and antispasmodic, and is prepared by dissolving 30 grains in 4 ounces of water.

The *compound enema* for the relief of tympanites contains tincture of asafetida, 3 ounces (90 c.c.); glycerin, 1 ounce (30 c.c.); magnesium sulphate, 1 ounce (30 c.c.), oil of turpentine, 30 minims (1.8 c.c.). This is followed in fifteen minutes with 1 pint of warm soap-suds.

Asclepias (Pleurisy Root).—**Action and Uses.**—Asclepias is an uncertain expectorant, diuretic, and diaphoretic. In large doses it acts as a cathartic.

Dose, 20 to 60 grains (1.3–4.0 gm.).

Fluidextractum (Fluidextractum Asclepiadis).—From 20 to 60 minims (1.2–4.0 c.c.).

Infusion (Infusum Asclepiadis).—*Dose,* 1 teacupful. The infusion is made by adding 1 ounce of the powdered root to 1 quart of water.

Aspidium (Male Fern; Filix-mas).—**Action and Uses.**—Aspidium is the root-stalk of a fern (*Dryopteris marginalis*) growing in temperate regions.

It is used as a teniacide or agent for expelling tape-

worm. Overdoses cause abdominal pain, vomiting, purging, spasms, coma, and collapse. Blindness is an early symptom in some cases of poisoning.

Dose.—*Oleoresin* (Oleoresina Aspidii).—From ½ to 1 dram (2–4 c.c.), followed by a saline purge.

Aspirin (Acetyl-salicylic Acid).—This compound is said to pass through the stomach unchanged and to liberate free salicylic acid in the bowel. It is recommended as a substitute for sodium salicylate in rheumatism, being less disagreeable to the taste than the latter and less prone to disturb the stomach.

Dose, 10 to 15 grains (0.65–1.0 gm.).

Atropin.—(See *Belladonna.*)

Balsam of Peru (Balsamum Peruvianum).—**Action and Uses.**—Balsam of Peru is used externally as an antiseptic application in bed-sores and indolent ulcers. Internally it is used as a stimulant expectorant in chronic bronchitis.

Dose, 10 to 30 minims (0.6–2.0 c.c.).

Balsam of Tolu (Balsamum Tolutanum).—**Action and Uses.**—Balsam of tolu is used for the same purposes as the balsam of Peru. On account of its agreeable flavor it is often used as a flavoring vehicle in cough-mixtures.

Dose, 5 to 30 grains (0.3–2.0 gm.).

Syrup of Tolu (Syrupus Tolutanus).—From 1 to 4 drams (4–15 c.c.).

Tincture of Tolu (Tinctura Tolutana).—From ½ to 1 dram (2–4 c.c.).

Basham's Mixture.—(See *Iron.*)

Belladonna (Deadly Nightshade).—Belladonna is the leaves and root of a bushy plant (*Atropa belladonna*)

growing in the woods of temperate regions. It owes its activity to the alkaloid—*atropin.*

Action and Uses.—In moderate doses atropin lessens the secretion of the skin and mucous membranes, stimulates the respiration and circulation, increases intestinal peristalsis, and probably depresses involuntary muscles. Applied locally to the eye or taken internally in large doses it also dilates the pupil and paralyzes the power of the eye to accommodate for distance.

Poisoning.—Overdoses of belladonna or of atropin cause dryness of the throat, dilatation of the pupils, acceleration of the pulse and respiration, talkative delirium, a bright-red rash somewhat resembling that of scarlet fever, and, finally, stupor, paralysis of respiration, and collapse.

Treatment of Poisoning.—Belladonna-poisoning is to be treated by administering the chemic antidote, tannic acid, by the application of external heat to all parts of the body, and by the use of stimulants when the symptoms of collapse appear. The bowels and bladder should be emptied in order to prevent the reabsorption of the drug.

Belladonna or atropin is used to check excessive secretion, as in night-sweats and salivation, to relax local spasms, as in asthma, whooping-cough, and renal or biliary colic; to stimulate the circulation, as in shock or collapse; to stimulate the respiration, as in opium-poisoning; to increase peristalsis, as in atonic constipation; to dilate the pupil, as in inflammation of the iris; to paralyze the accommodative power of the eye, as in refraction work; and in the form of liniment, ointment, or plaster, to allay local irritation, as in muscular rheumatism.

Preparations and Doses.—*Atropin Sulphate* (Atropinæ Sulphas).—From $\frac{1}{150}$ to $\frac{1}{60}$ grain (0.00043–0.0013 gm.).

Tincture of Belladonna (Tinctura Belladonnæ).—From 5 to 20 minims (0.3–1.2 c.c.).

Fluidextract of Belladonna (Fluidextractum Belladonnæ).—From 1 to 2 minims (0.06–0.12 c.c.).

Extract of Belladonna (Extractum Belladonnæ).—From $\frac{1}{8}$ to $\frac{1}{4}$ grain (0.008–0.016 gm.).

Belladonna Ointment (Unguentum Belladonnæ).—Used externally.

Belladonna Plaster (Emplastrum Belladonnæ).

Belladonna Liniment (Linimentum Belladonnæ).

Benzoin (Benzoinum).—Benzoin is a balsamic resin obtained from a large tree (*Styrax benzoin*) growing in Java and the neighboring islands.

Action and Uses.—The action of the drug is due to the benzoic acid which it contains. Benzoin and its compounds are used internally as antiseptics, stimulant expectorants, and diuretics.

Locally, in concentrated form, it is an irritant to the mucous membrane of the fauces and nasal passages, and when inhaled, it produces coughing and sneezing. The compound tincture of benzoin is used as a stimulant and healing application to fresh wounds. A few drops of the tincture added to bathing-water serve to cleanse the skin and give a pleasant feeling of freshness by stimulating its action.

Preparations and Doses.—*Benzoic Acid* (Acidum Benzoicum).—From 10 to 40 grains (0.65–2.59 gm.). Locally, it acts as an antiseptic and stimulant. When taken internally, it is eliminated by the kidneys as hippuric acid, and in consequence it is much used in chronic inflammation of the bladder with alkaline urine.

Tincture of Benzoin (Tinctura Benzoini).—From 10 to 30 minims (0.6–2.0 c.c.).

Compound Tincture of Benzoin (Tinctura Benzoini Composita; Friar's Balsam).—From 30 to 60 minims (2–4 c.c.).

Benzoate of Ammonium (Ammonii Benzoas).—A stimulant, expectorant, and diuretic. *Dose*, 10 to 20 grains (0.6–1.3 gm.).

Benzoate of Lithium (Lithii Benzoas).—From 10 to 30 grains (0.6–2.0 gm.).

Benzoate of Sodium (Sodii Benzoas).—*Action and Uses.*—The sodium and lithium benzoates are sometimes used as substitutes for the salicylates in various rheumatic affections. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Betol (Naphthalol; Naphthosalol).—Betol is closely allied to salol, but is less powerful. In the intestines it is decomposed into naphthol and salicylic acid. It is used as an intestinal antiseptic.

Dose, 5 to 15 grains (0.3–1.0 gm.) in pill form or in powder.

Bismuth (Bismuthum).—Metallic bismuth is inert. The action of the insoluble salts, when given internally in medicinal doses, is that of a sedative and astringent to the mucous membranes of the alimentary canal, a mild antacid, and a feeble antiseptic. They impart to the stools a black or dark-gray color. Bismuth salts are valuable remedies in acute and chronic inflammation of the stomach, in gastric ulcer, in obstinate vomiting from irritation of the stomach, and in acute and subacute diarrhea.

Locally, the salts of bismuth have an antiseptic, sedative, and astringent action, and are used in the form of an ointment, lotion, or powder. While the insoluble salts

of bismuth, such as the subnitrate and subcarbonate, have little, if any, toxic power, even in very large doses, when taken by the mouth, their external application to raw surfaces is not unattended with the danger of poisoning, especially when the area treated is large.

Preparations and Doses.—*Bismuth Subnitrate* (Bismuthi Subnitras).—*Action and Uses.*—Bismuth subnitrate is the commonly prescribed salt of bismuth. It appears as a heavy white powder, odorless and tasteless, and insoluble in water. It is used externally as an antiseptic dusting-powder, and internally as an astringent, sedative, and antiseptic in inflammatory affections of the stomach and intestines. It imparts a garlicky odor to the breath, and makes the stools black. *Dose*, 10 to 30 grains (0.6–2.0 gm.), in powder dry on the tongue, or stirred up in water or milk.

Bismuth Subcarbonate (Bismuthi Subcarbonas).—*Action and Uses.*—It appears as a heavy white powder, tasteless and odorless, and insoluble in water. It is used for the same purposes and is given in the same doses as the subnitrate.

Bismuth Subgallate (Bismuthi Subgallas; Dermatol).—Bismuth subgallate, or dermatol, as it is more commonly called, is used externally as a substitute for iodoform. It is antiseptic, sedative, and astringent. It is also given internally as a substitute for bismuth subnitrate. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Bismuth Subsalicylate (Bismuthi Subsalicylas).—Intestinal antiseptic. *Dose*, 5 to 30 grains (0.3–2.0 gm.), given in powder or capsule. Insoluble in water or alcohol.

Bismuth Oxid (Bismuthi Oxidum).—Sedative and astringent. It is occasionally used in intestinal disorders. *Dose*, 5 to 10 grains (0.3–0.65 gm.).

Bismuth Subiodid (Bismuthi Subiodidum).—Used externally as an antiseptic and stimulant.

Bismuth and Ammonium Citrate (Bismuthi et Ammonii Citras).—This preparation is soluble, and being more irritant than the insoluble subnitrate and subcarbonate, is of less value. *Dose*, 2 to 5 grains (0.13–0.32 gm.).

Blaud's Pill.—(See *Iron.*)

Blue-mass.—(See *Mercury.*)

Borax ; Biborate of Sodium (Sodii Boras).—**Action and Uses.**—Borax is a mild antacid and a feeble antiseptic. It is used as an antiseptic mouth-wash and as a dusting-powder in various cutaneous irritations.

Dose, 5 to 15 grains (0.3–1.0 gm.). (See also *Boric Acid.*)

Bromids.—The chief bromid preparations are the bromids of potassium, ammonium, sodium, strontium, lithium, and calcium, hydrobromic acid, and bromipin.

Potassium Bromid (Potassii Bromidum).—Potassium bromid is the bromid most commonly prescribed. Its chief action is on the nervous system. It depresses the brain, spinal cord, and to some extent the peripheral nerves. In large doses it depresses, also, the circulation. Long use of the remedy is followed by a group of symptoms termed *bromism*—fetor of breath, acne rash, mental dulness, muscular weakness, and anemia. Fowler's solution or some other preparation of arsenic is often given with the bromids to prevent the development of acne. Bromids are employed to induce sleep, to check convulsions, as in epilepsy and tetanus, and to allay nervous excitement. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Ammonium Bromid (Ammonii Bromidum).—*Use.*—This salt has the same action as that of potassium bromid,

but is somewhat less depressing to the circulation. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Sodium Bromid (Sodii Bromidum).—*Use.*—The sodium bromid is used for the same purposes as the corresponding salt of potassium; it is, however, less depressing to the circulation and less irritating to the stomach. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Strontium Bromid (Strontii Bromidum).—*Use.*—Strontium bromid is used for the same purposes as the corresponding salt of potassium, but it is less active, less depressing, and less apt to produce acne. *Dose*, 15 to 60 grains (1–4 gm.).

Lithium Bromid (Lithii Bromidum).—*Use.*—This salt is the therapeutic equivalent of sodium bromid. *Dose*, 10 to 60 grains (0.6–4.0 gm.)

Calcium Bromid (Calcii Bromidum).—*Use.*—The action of the salt is similar to that of potassium bromid, but it is less irritating and depressing. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Hydrobromic Acid, Dilute (Acidum Hydrobromicum Dilutum).—*Use.*—The action of the drug is similar to that of the bromids, but distinctly less powerful. *Dose*, 1 to 2 drams (4–8 c.c.).

Bromipin.—This is a combination of bromin (10 per cent.) and an indifferent oil (oil of sesame). It has the same action as the bromids, but is claimed to be less liable to cause disturbances of digestion. *Dose*, ½ to 1 dram (2–4 c.c.).

Bromoform.—This is a colorless, volatile liquid, having a pleasant odor and a sweetish taste. It should be carefully protected from light and air, and should be rejected if not free from color. While bromoform has anesthetic properties somewhat resembling those of

chloroform, it is chiefly used as an antispasmodic in whooping-cough.

Poisoning.—Toxic doses produce cyanosis, difficult breathing, a rapid, feeble pulse, coma, and collapse.

Treatment consists in evacuating the stomach, applying external heat, practising artificial respiration, and administering cardiac and respiratory stimulants.

Dose, 1 to 5 minims (0.06–0.3 c.c.). A minim is equal to about six drops. The drug may be given on sugar. Mixtures containing bromoform should be thoroughly shaken before each administration. Many cases of poisoning have resulted from a neglect of this precaution. The bromoform being very heavy, tends to fall to the bottom of the bottle, and unless this tendency is overcome by shaking, the last doses may contain much more of the drug than was intended.

Bromin (Bromum).—**Action and Uses.**—Bromin appears as a dark-red volatile liquid. Its taste is caustic and disagreeable. It is sometimes employed undiluted as a powerful caustic and in weak solutions as a deodorant. Its fumes are highly irritating to the respiratory tract.

Brucin.—**Action and Uses.**—Brucin is one of the alkaloids of nux vomica. It is said to represent but one-twelfth of the strength of nux vomica. Its physiologic action is similar to, but much less powerful than, strychnin. It is used in the same conditions as strychnin.

Dose, $\frac{1}{12}$ to $\frac{1}{2}$ grain (0.005–0.03 gm.).

Bryonia (Bryony).—**Action and Uses.**—Bryonia is the root of a European perennial plant, *Bryonia alba.* It is an irritant to the skin and to mucous and serous membranes. In large doses it is a hydragogue cathartic and emetic. It is used in various inflammatory chest affections, rheumatism, and atonic dyspepsia.

Dose.—*Tincture of Bryonia* (Tinctura Bryoniæ).—From 10 minims to 2 drams (0.6–7.5 c.c.).

Buchu.—Action and Uses.—Buchu is the leaf of several species of *Barosma*, a South African shrub. It is chiefly used as a stimulating diuretic in inflammatory diseases of the kidney and bladder.

Dose.—*Fluidextract of Buchu* (Fluidextractum Buchu).—From ½ to 1 dram (1.8–3.7 c.c.), well diluted.

Infusion, made by adding 1 ounce of the leaves to 1 pint of water, 1 to 2 ounces (30–60 c.c.).

Burgundy Pitch.—(See *Pitch.*)

Butyl-chloral Hydrate.—(See *Chloral.*) Like chloral, this drug is a nerve-sedative and hypnotic. It is chiefly used in the treatment of facial neuralgia.

Dose, 1 to 10 grains (0.065–0.6 gm.), generally given in pill, capsule, or aromatic elixir, after meals. It is too irritating to use hypodermically.

Cacao-butter (Oleum Theobromatis; Oil of Theobroma).—This is a fixed oil obtained from the seed of the chocolate tree (*Theobroma cacao*) growing in tropical countries. It is a yellowish solid, of the consistence of tallow, with an agreeable odor and a chocolate-like taste, and melting at about 90° F. It does not become rancid upon exposure. It is used as a basis for suppositories, and as a bland, unirritating application to the skin.

Cactus Grandiflorus (Night-blooming Cereus).—Action and Uses.—Cactus is a heart-stimulant, sometimes used as a substitute for digitalis. It has no cumulative action.

Dose.—*Tincture of Cactus* (Tinctura Cacti Grandiflori).—From 5 to 20 minims (0.3–1.2 c.c.).

Fluidextract of Cactus (Fluidextractum Cacti).—From 5 to 10 minims (0.3–0.6 c.c.).

Caffea (Coffee).—**Action and Uses.**—Coffee is a diuretic, a heart-stimulant, a respiratory stimulant, and a brain stimulant. Strong black coffee is valuable in the treatment of opium-poisoning, as it helps to keep the patient awake and stimulates the respiratory center. It is also used to counteract exhaustion following long mental or physical exertion.

Taken in excess, coffee causes dyspepsia, nervousness, wakefulness, muscular tremors, and palpitation of the heart. Coffee owes its activity to its alkaloid, caffein, which is identical with thein, the alkaloid of tea.

Caffein.—As a heart-stimulant caffein resembles digitalis in its action, but it is more prompt and has no cumulative action. It is also a respiratory stimulant, a cerebral stimulant, and a diuretic. It is a useful remedy in various forms of heart-failure, in opium-poisoning, in dropsy, and in certain forms of headache.

Poisoning by caffein is very rare. The symptoms, which appear rapidly, are vertigo, faintness, muscular weakness, anesthesia, coldness of the extremities, pain in the stomach, increased diuresis, rise of temperature, rapid respiration and pulse, tonic and clonic convulsions, and collapse. The antidotes are opium and digitalis to stimulate the heart and relieve the nervous symptoms.

Dose.—Caffein (Caffeina).—From 1 to 5 grains (0.06–0.3 gm.), in powder, capsule, or pill.

Citrated Caffein (Caffeina Citrata).—From 1 to 5 grains (0.06–0.3 gm.).

Effervescent Citrated Caffein.—From 1 to 2 drams (4–8 gm.).

Benzoate of sodium and caffein is much preferred for hypodermic use on account of its solubility and freedom from irritating properties.

Calabar Bean.—(See *Physostigma.*)

Calamus (Sweet Flag).—**Action and Uses.**—Calamus is a stomachic and an aromatic bitter, increasing the appetite and stimulating digestion.

Dose, 5 to 30 grains (0.3–2.0 gm.).

Fluidextract of Calamus (Fluidextractum Calami).—From 5 to 30 minims (0.3–2.0 c.c.).

Infusion of Calamus.—Made in the proportion of 1 ounce (30 c.c.) of the root to 1 pint (480 c.c.) of boiling water, 1 wineglassful.

Calcium.—**Preparations of Calcium.**—The chief preparations of calcium are the carbonate, chlorid, hypophosphite, phosphate, and oxid.

Calcium Carbonate.—This is a fine white powder, odorless, tasteless, and insoluble in water and alcohol. It is used internally as an astringent, as an antacid, and as an antidote in mineral- and oxalic-acid poisoning, and externally as a protective dusting-powder.

Precipitated Calcium Carbonate (Calcii Carbonas Præcipitatus).—This is a useful astringent in acute diarrhea. Externally it is employed as a dusting-powder in chapped skin. It is also the chief ingredient in most tooth-powders. *Dose,* 10 to 30 grains (0.6–2.0 gm.).

Prepared Chalk (Creta Præparata).—This preparation is much used as an astringent and antacid in diarrhea. *Dose,* 10 to 30 grains (0.6–2.0 gm.).

Compound Chalk Powder (Pulvis Cretæ Compositus).—This is a mixture of chalk, gum arabic, and sugar. It is useful in diarrhea. *Dose,* 10 to 60 grains (0.6–4.0 gm.).

Chalk Mixture (Mistura Cretæ).—This is a mixture of compound chalk powder and cinnamon water. *Dose,* 1 to 4 drams (4–15 c.c.).

Calcium Chlorid (Calcii Chloridum).—This is a white,

odorless substance, with a saline taste, and freely soluble in water. It is used as an alterative in scrofulous enlargement of the glands and in various forms of obstinate bleeding to render the blood more coagulable. It must be distinguished from the so-called chlorid of lime, which is in reality chlorinated lime. *Dose*, 2 to 5 grains (0.13–0.3 gm.).

Calcium Hypophosphite (Calcii Hypophosphis).—This is a white, crystalline, soluble powder, with an unpleasant, bitter taste. It is used as a general tonic in phthisis, rickets, nervous exhaustion, and anemia. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Syrup of Hypophosphites (Syrupus Hypophosphitum).—This is a syrup of the hypophosphites of lime, sodium, and potassium. It is used as a general tonic. *Dose*, 1 to 4 drams (4–15 c.c.).

Calcium Phosphate (Calcii Phosphas).—This is a white, odorless, tasteless powder, obtained from bone. It is used as a general tonic in conditions of impaired nutrition, as in phthisis, rickets, etc. *Dose*, 5 to 30 grains (0.3–2.0 gm.).

Syrup of Calcium Lactophosphate (Syrupus Calcii Lactophosphatis).—This is a syrup of a double salt of calcium produced by the action of lactic and phosphoric acids on calcium carbonate. It is used as a general tonic. *Dose*, 1 to 4 drams (4–15 c.c.).

Calcium Oxid (Lime; Unslaked Lime; Calx).—Unslaked lime is an excellent disinfectant for stools and collections of putrefying organic matter. Locally, it is an active caustic. In combination with caustic soda it constitutes "London Paste," and in combination with caustic potash, "Vienna Paste."

Lime-water (Liquor Calcis; Solution of Lime).—This

is used internally as an antacid, astringent, and gastric sedative. Lime-water is added to milk partly to neutralize the acid of the stomach and to prevent the milk from forming hard, indigestible lumps in the stomach. Lime-water is one of the most common remedies for checking nausea and vomiting. It is an antidote in acid-poisoning. Externally it is used as an alkaline application in burns, scalds, and in some skin-diseases. A spray of lime-water is used in inflammatory throat affections to remove viscid mucus and false membrane. *Dose*, 1 to 8 drams (4–30 c.c.). It may be made by adding 2 ounces of unslaked lime to 1 gallon of water for two or three minutes. After standing about twelve hours, the clear solution may be drawn off and poured into a well-stoppered bottle.

Carron Oil (Linimentum Calcis).—Equal parts of olive or linseed oil and lime-water. It is used as a dressing for burns.

Chlorinated Lime (Calx Chlorata).—This is made by passing chlorin gas over slaked lime. It contains about 35 per cent. of chlorin. It is used as a disinfectant and deodorizer, in solution usually of the strength of 1 pound to 2 gallons of water.

Sulphurated Lime (Calx Sulphurata).—This is used internally in certain pustular skin-diseases, and externally as a depilatory. *Dose*, $\frac{1}{10}$ to $\frac{1}{5}$ grain (0.006–0.013 gm.).

Calomel.—(See *Mercury*.)

Calumba (Columbo).—**Action and Uses.**—Calumba is the dried root of a climbing plant (*Jateorhiza palmata*) growing in eastern Africa. It is a bitter tonic, increasing the appetite and promoting digestion.

Dose.—*Fluidextract of Calumba* (Fluidextractum Calumbæ).—From 5 to 30 minims (0.3–2.0 c.c.).

Tincture of Calumba (Tinctura Calumbæ).—From ½ to 2 drams (2–8 c.c.).

Camphor (Camphora).—**Action and Uses.**—Camphor is a gum obtained from the *Cinnamomum Camphora*, growing in China and Japan. It is used internally as a nervous sedative, carminative, antispasmodic, and stimulant. Externally it is used as a stimulating application in rheumatism, sprains, and neuralgia. A solution of 1 part of camphor to 10 parts of olive oil is used hypodermically, with excellent effect, as a heart-stimulant.

Large doses of camphor cause giddiness, faintness, burning in the stomach, cold, clammy skin, feeble pulse, convulsions, and unconsciousness. The treatment of poisoning consists in the use of stimulants and the external application of heat.

Dose, 2 to 5 grains (0.13–0.3 gm.).

Camphor-water (Aqua Camphoræ).—From 1 to 4 drams (4–15 c.c.).

Spirit of Camphor (Spiritus Camphoræ).—From 5 to 30 minims (0.3–2.0 c.c.).

Camphorated Tincture of Opium or Paregoric (Tinctura Opii Camphorata).—From ½ to 4 drams (2–15 c.c.).

Camphor Cerate (Ceratum Camphoræ).—For local use.

Camphor Liniment (Linimentum Camphoræ).—For external use.

Soap Liniment (Linimentum Saponis).—For external use.

Monobromated Camphor (Camphora Monobromata).—A hypnotic and nervous sedative. It resembles the bromids in its action, but is not identical with them. Toxic doses produce epileptiform convulsions. *Dose*, 1 to 5 grains (0.065–0.3 gm.).

Cannabis Indica (Indian Cannabis; Indian Hemp). —**Action and Uses.**—Cannabis indica is the flowering tops of an herb (*Cannabis sativa*) growing in the East Indies. It is a nerve-sedative, anodyne, antispasmodic, and narcotic.

Full medicinal doses first stimulate, then depress, the heart and blood-vessels, and produce a feeling of exhilaration, with pleasing ideas and hallucinations. There is also disordered consciousness of personality, time, and locality, followed by a sense of weight in the extremities, loss of muscular power, cutaneous anesthesia, and sleep. The pupils are dilated. The respirations may be slow or quickened. The urine is increased. The after-effects of opium—nausea, headache, etc.—are not present. No fatal case of poisoning from its use is recorded.

Dose.—*Extract of Cannabis Indica* (Extractum Cannabis Indicæ).—From ¼ to ½ grain (0.016–0.032 gm.).

Fluidextract of Cannabis Indica (Fluidextractum Cannabis Indicæ).—From 5 to 10 minims (0.3–0.6 c.c.).

Tincture of Cannabis Indica (Tinctura Cannabis Indicæ).—From 5 to 30 minims (0.3–2.0 c.c.).

Cantharis (Cantharides; Spanish Flies).—This is the dried body of a beetle (*Cantharis vesicatoria*) found in southern Europe.

Action and Uses.—Applied externally, cantharis is a rubefacient and vesicant; internally it is a powerful stimulant to the kidneys.

Dose.—*Tincture of Cantharides* (Tinctura Cantharidis). —From 1 to 10 minims (0.06–0.6 c.c.).

Cantharidal Collodion (Collodium Cantharidatum).—Used externally.

Cerate of Cantharides (Ceratum Cantharidis).—Used externally.

Warming Plaster (Pitch Plaster with Cantharides; Emplastrum Picis Cantharidatum).—Used externally.

A blister is raised with cantharidal cerate, collodion, or plaster. The part must be washed, shaved if necessary, and wiped perfectly dry; the plaster is cut the desired size and shape and applied. If the cerate is used, it should be spread on a piece of cotton cloth and kept in place with a bandage. If adhesive plaster is used to keep either of these plasters in place, there will be no room for the blister to rise and it will cause severe pain. Before applying the cantharidal collodion the parts to be blistered should first be outlined with vaselin or oil, which will prevent spreading of the blistering solution. The collodion, which is painted on with a swab or a brush, first causes an itching sensation, and patients should be told of this to guard against scratching. The action of cantharides must be closely watched. It is a powerful irritant, and, when absorbed, affects the kidneys and may cause painful urination or suppression of urine.

Poisoning.—*Symptoms.*—Burning pain in the throat, stomach, and abdomen; vomiting (if the powder has been taken, the vomited matter will contain green specks); thirst; scanty bloody urine; bloody movements; a weak, rapid pulse; rapid respiration; convulsions; delirium and death.

The *treatment* consists in evacuating the stomach and in administering demulcent drinks. No oils should be given, as they aid absorption. Stimulants and opium may be required.

Capsicum (Cayenne Pepper; African Pepper).—**Action and Uses.**—Internally, capsicum is used as a carminative and stomachic in atonic dyspepsia, acute alcoholism, and flatulent colic. In acute alcoholism capsicum

quiets the nervous disturbance that arises from the condition of the stomach. Administered on a crumb of bread or in egg-nog, it quiets the aching distress at the epigastrium, and so tends to take the place of alcohol, and secondarily to induce quiet and sleep. Externally, it is a counterirritant and stimulant to the skin. In sore throat and tonsillitis a mixture of equal parts of glycerin and tincture of capsicum is an efficient local application.

Dose.—*Fluidextract of Capsicum* (Fluidextractum Capsici).—From 1 to 3 minims (0.06–0.18 c.c.).

Oleoresin of Capsicum (Oleoresina Capsici).—One minim (0.06 c.c.).

Tincture of Capsicum (Tinctura Capsici).—From 10 to 30 minims (0.6–2.0 c.c.).

Capsicum Plaster (Emplastrum Capsici).—Used externally.

Cardamom (Cardamomum).—**Action and Uses.**—Cardamom is the fruit of an herb (*Elletaria repens*) growing in India. It is used as a carminative in flatulent dyspepsia, and as an agreeable flavoring agent.

Dose.—*Tincture of Cardamom* (Tinctura Cardamomi).—From 1 to 2 drams (4–8 c.c.).

Compound Tincture of Cardamom (Tinctura Cardamomi Composita).—From 1 to 2 drams (4–8 c.c.).

Aromatic Powder (Pulvis Aromaticus).—From 5 to 30 grains (0.3–2.0 gm.).

Caroid.—(See *Papayotin.*)

Carum (Caraway).—**Action and Uses.**—Caraway is the fruit of an herb (*Carum carvi*) grown largely in Asia. It is a carminative and stomachic. It is frequently combined with cathartics to lessen griping. It is also used as a flavoring agent.

Dose, 1 to 10 grains (0.065–0.6 gm.).

Oil of Caraway (Oleum Cari).—From 1 to 5 minims (0.06–0.3 c.c.).

Cascara Sagrada (Rhamnus Purshiana).—**Action and Uses.**—Cascara sagrada is the bark of a small tree (*Rhamnus purshiana*) growing on the western coast of North America. It is largely employed as a tonic laxative in chronic constipation. Unlike most cathartics, it does not readily lose its effect by frequent use.

Dose.—*Fluidextract of Cascara Sagrada* (Fluidextractum Rhamni Purshianæ).—From 10 to 30 minims (0.6–2.0 c.c.).

Aromatic Fluidextract of Cascara Sagrada (Fluidextractum Rhamni Purshianæ Aromaticum).—From 10 to 30 minims (0.6–2.0 c.c.).

Extract of Cascara Sagrada (Extractum Rhamni Purshianæ).—From 1 to 5 grains (0.06–0.3 gm.).

Cascarilla.—**Action and Uses.**—Cascarilla is the bark of a shrub (*Croton eleuteria*) growing in the Bahama Islands. It is employed chiefly as a bitter tonic and stomachic.

Dose.—*Tincture of Cascarilla* (Tinctura Cascarillæ).—From ½ to 2 drams (2–8 c.c.).

Fluidextract of Cascarilla (Fluidextractum Cascarillæ).—From 10 to 30 minims (0.6–2.0 c.c.).

Infusion of Cascarilla (Infusum Cascarillæ).—From ½ to 2 ounces (15–60 c.c.).

Extract of Cascarilla (Extractum Cascarillæ).—From 5 to 10 grains (0.3–0.65 gm.).

Castor Oil (Oleum Ricini).—This is a fixed oil expressed from the seed of a plant (*Ricinus communis*) growing in India and most warm climates.

Action and Uses.—In small doses castor oil is a mild laxative; in large doses it is a simple purgative, producing semiliquid stools within four or five hours of its

administration. Catharsis is produced by stimulation of the muscular coat of the bowel. The oil is absorbed and is excreted in nearly all the secretions, including the milk, to which it imparts, when given to nursing women, a laxative quality. The seeds, being intensely poisonous, are not used in medicine.

Dose, 1 to 8 drams (4–30 c.c.). It may be given in flexible capsules, in emulsion, or with equal parts of glycerin or lemon-juice and flavored with some aromatic oil, like that of wintergreen.

A poultice of the leaves of the castor-oil plant is sometimes applied to the breast to stimulate the secretion of milk.

Catechu.—Action and Uses.—Catechu is an extract obtained from a small tree (*Acacia catechu*) growing in India. It owes its medicinal properties to tannic acid. It is employed as an astringent in diarrhea after the bowel has been thoroughly cleansed of irritant matter by castor oil or calomel. In the last edition of the Pharmacopeia catechu has been replaced by gambir.

Dose.—*Compound Tincture of Catechu* (Tinctura Catechu Composita).—From ½ to 1 dram (2–4 c.c.).

Troches of Catechu (Trochisci Catechu).—One as required.

Cerium Oxalate (Cerii Oxalas).—This is a white, insoluble powder, free from odor and taste. It is employed as an antiemetic, especially in the vomiting of pregnancy.

Dose, 2 to 5 grains (0.12–0.3 gm.) in powder or pill.

Cetaceum.—(See *Spermaceti.*)

Cetraria (Iceland Moss).—Action and Uses.—Cetraria is used chiefly as a demulcent. It has slight nutritive and tonic properties.

Dose.—*Decoction of Cetraria* (Decoctum Cetrariæ).—From 2 to 4 ounces (60–120 c.c.).

Chalk.—(See *Calcium Carbonate.*)

Chamomile (Anthemis).—**Action and Uses.**—Chamomile is the flower-heads of a perennial plant (*Anthemis nobilis*) cultivated in western Europe. Internally it is a mild tonic, carminative, and bitter stomachic. Large doses of the infusion act as a mild emetic. Externally it is used in fomentations to relieve inflammatory pain and colic.

Dose, ½ to 1 dram (2–4 gm.).

Extract of Chamomile (Extractum Anthemidis).—From 2 to 10 grains (0.13–0.6 gm.).

Fluidextract of Chamomile (Fluidextractum Anthemidis).—From 10 to 60 minims (0.6–4.0 c.c.).

Infusion of Chamomile (Infusum Anthemidis).—Usually of the strength of 4 drams to a pint of water—1 to 2 ounces (30–60 c.c.).

Chamomile Oil (Oleum Anthemidis).—From 1 to 3 minims on sugar (0.06–0.18 c.c.).

Charcoal (Carbo Lignii; Wood Charcoal).—**Action and Uses.**—Externally charcoal is a disinfectant, deodorant, and absorbent, and as such is used in the dressing of foul wounds. Internally it is used as an absorbent in flatulent dyspepsia.

Dose, 5 to 60 grains (0.6–4.0 gm.).

Charcoal Poultice.—A charcoal poultice, which is a very dirty poultice to prepare, is generally made with one part of charcoal and two parts of flaxseed meal, mixed and made in the usual way, a little additional charcoal being sprinkled over the surface of the poultice before applying. This poultice, which is ordered for wounds which have an offensive discharge, acts as a deodorant by absorbing the odor and promoting a healthy condition. Another method of making this poultice is to add ½ ounce of charcoal to 4 ounces of flaxseed meal

and bread-crumbs, mixing all together and making the application in the ordinary way.

Chenopodium (American Wormseed).—This is the fruit of a perennial herb (*Chenopodium anthelminticum*), growing in South America. It is used solely as an anthelmintic for the expulsion of round-worms.

Dose, 20 to 30 grains (0.6–2.0 gm.).

Oil of Chenopodium (Oleum Chenopodii).—From 5 to 10 minims (0.3–0.6 c.c.) on sugar or in emulsion.

Chimaphila (Pipsissewa).—**Action and Uses.**—Chimaphila is the leaves of a perennial (*Chimaphila umbellata*), growing in all temperate regions. It stimulates the mucous membrane of the urinary passages, renders the urine slightly antiseptic, and increases the secretion of urine. It is especially employed in subacute and chronic inflammations of the bladder.

Dose.—*Fluidextract of Chimaphila* (Fluidextractum Chimaphilæ).—From ½ to 1 dram (2–4 c.c.).

Chiretta (Chirata).—**Action and Uses.**—Chiretta is the entire plant of *Swertia chirata*, growing in the mountains of India. It is a bitter tonic, free from astringent properties. It is also supposed to stimulate the flow of bile.

Dose.—*Fluidextract of Chiretta* (Fluidextractum Chiratæ).—From ½ to 1 dram (2–4 c.c.).

Tincture of Chiretta (Tinctura Chiratæ).—From 1 to 4 drams (4–15 c.c.).

Chloral (Hydrated Chloral; Chloralum Hydratum).—**Action and Uses.**—This is a product of the action of chlorin gas on alcohol. It is a soluble, colorless, crystalline substance, having a bitter, caustic taste. Chloral is a pure hypnotic and antispasmodic. It is much used to relieve insomnia the result of nervous excitement, and to control convulsions of an acute character, such as those

of tetanus, uremia, and strychnin-poisoning. It is not an anodyne, and will not produce sleep when pain is the cause of wakefulness. It is a marked depressant to the heart and the nervous system, and should be used with caution. The sleep of chloral resembles natural sleep, and is not followed by unpleasant after-effects, such as nausea and headache, which generally follow the use of opium.

During sleep the pupils are slightly contracted, the respirations are regular and quiet, and the pulse is slowed. In some patients chloral may cause, instead of sleep, insomnia, headache, and delirium. The danger of chloral is paralysis of the heart, which may occur without warning. The dose, which varies according to susceptibility and the presence or absence of organic disease, is from 5 to 30 grains (0.3–2.0 gm.).

Poisoning.—*Symptoms.*—Profound coma, slow, thready pulse, complete muscular relaxation, labored respirations, a cold, clammy skin, and dilated pupils.

Treatment consists in the use of heart-stimulants, heat to all parts of the body, and mustard paste over the heart.

Chloralamid (Chloralformamidum).—This is a colorless, crystalline substance, having a bitter taste. It is freely soluble in alcohol, but rather sparingly soluble in water. Its chief action is on the brain, which it depresses, producing sleep. It is employed as a hypnotic in insomnia from various causes. While it is not so depressing to the heart and respiration as chloral, it is not quite so certain in its hypnotic action as the latter.

Dose, 10 to 30 grains (0.6–2.0 gm.) in aromatic elixir or in a copious draft of water. It should not be given in hot liquids, as they decompose it.

Chloral Camphor.—This is a syrupy liquid made by rubbing together equal parts of chloral and camphor. It is used externally as an anodyne in neuralgia.

Chloralose.—This compound is produced by heating together chloral and glucose. It is a colorless, crystalline substance, of a disagreeable bitter taste, freely soluble in hot liquids, and but slightly so in cold water. Its chief action is on the brain, which it depresses, producing sleep. Its uncertain action is an important drawback to its usefulness in insomnia. Not infrequently it causes excitement instead of sleep.

Dose, 5 to 8 grains (0.3–0.5 gm.), in cachets or capsules, followed by hot tea or milk.

Chlorin.—Chlorin is a heavy, yellowish-green gas, having a suffocating odor and a caustic taste. It may be prepared by adding an acid to chlorinated lime. Inhaled in concentrated form, it excites severe inflammation of the respiratory tract. Chlorin is an active deodorizer and germicide, but its irritant and destructive properties make it unsuitable for the disinfection of rooms.

Preparations.—*Chlorin Water* (Liquor Chlori Compositus).—This has been used both externally and internally as an antiseptic. Being more unstable than chlorinated lime, it is less reliable than the latter for disinfecting stools and other discharges. *Dose*, ½ to 2 drams (2–8 c.c.).

Solution of Chlorinated Soda (Liquor Sodæ Chloratæ; Labarraque's Solution).—This is a colorless solution with a feeble odor and taste of chlorin. It is used for the same purposes as chlorin water. It is sometimes employed as a mouth-wash or gargle in sore throat with offensive secretion. *Dose*, 10 to 30 minims (0.6–2.0 c.c.).

Chlorinated Lime.—(See *Lime.*)

Chlorate of Potassium (Potassii Chloras).—This salt occurs in colorless crystals, odorless, and of a saline taste. It is soluble in water. It is used as a stimulant to inflamed mucous membranes.

As a mouth-wash and gargle for sore throat, chlorate of potassium is well known, but it should not be used without the sanction of a physician, on account of its irritant and poisonous properties. When given in large doses or for any length of time, it has an irritant action on the kidneys.

Dose, 1 to 10 grains (0.13–0.65 gm.).

Troches of Potassium Chlorate (Trochisci Potassii Chloratis).—*Dose*, one slowly dissolved in the mouth, each troche containing 5 grains. The action upon the kidneys should be carefully watched.

Poisoning.—*Symptoms.*—Thirst, abdominal pain, vomiting and purging, cyanosis, dyspnea, scanty urine, and death from asphyxia, heart-failure, or uremia.

The *treatment* consists in the prompt use of demulcent drinks and heart-stimulants. The temperature of the body should be maintained by external heat.

Chloroform (Chloroformum).—This is a colorless, non-inflammable liquid, obtained by acting on alcohol with chlorin. When inhaled in moderate amount, its chief action is on the nervous system, which it depresses, producing general anesthesia. Large doses depress also the heart and respiration. When given by the mouth in small doses, it produces a sensation of warmth and serves as a carminative. Large doses excite inflammation of the stomach and bowel. Compared with ether as a general anesthetic, chloroform is more agreeable to the patient, more readily inhaled, more prompt in its action, less irritant to the respiratory tract and kidneys, less

liable to be followed by unpleasant sequels, such as nausea and vomiting, but distinctly more dangerous. Chloroform usually kills by heart-failure, ether by asphyxia. Externally it is an irritant, being capable, in concentrated form, of producing a blister.

As a general anesthetic it is sometimes used in preference to ether when the patient has an acute inflammatory disease of the lungs or kidneys, or when very prompt anesthesia is necessary. Partial anesthesia from chloroform is also much used in controlling convulsions and in relieving the excessive pains of child-birth. Internally, the drug is used in small doses as a carminative in neuralgia of the stomach and in intestinal colic. Externally, it is extensively employed in the form of a stimulating liniment in sprains and muscular rheumatism.

Dose, 5 to 30 minims (0.3–2.0 c.c.). A minim of chloroform is equivalent to about four drops.

Preparations.—*Chloroform Water* (Aqua Chloroformi).—From 1 to 8 drams (4–30 c.c.).

Spirit of Chloroform (Spiritus Chloroformi).—From 5 to 30 minims (0.3–2.0 c.c.).

Emulsion of Chloroform (Emulsum Chloroformi).—From 1 to 4 drams (4–15 c.c.).

Chloroform Liniment (Linimentum Chloroformi).—Used externally.

Chloroform Poultice.—Two parts of chloroform to 3 parts of hot sweet oil, poured over a piece of hot flannel.

Poisoning.—*Symptoms.*—Taken in large doses, it is a local irritant to the stomach and a powerful narcotic, causing stupor, convulsions, flushed face, foaming at the mouth, dilated pupils, cold, clammy skin, feeble pulse, and stertorous breathing. When taken in excess by inhalation, death may come suddenly and without warning

from paralysis of the heart, or may be preceded by dilated pupils, pallor of the face, and feeble pulse.

Treatment.—There is no chemic antidote. If swallowed, emetics should be given or the stomach-tube should be used. When untoward symptoms result from inhalation, the anesthetic must be withdrawn, the patient placed head downward and exposed to a current of air, the tongue drawn forward, and artificial respiration practised. Heat should be applied to the body, a mustard-plaster over the heart, and heart-stimulants, like strychnin, atropin, and digitalis, administered hypodermically.

Chrysarobin (Chrysarobinum).—**Action and Uses.**—Chrysarobin is a yellowish, crystalline powder, extracted from the wood of a large tree (*Andira araroba*) growing in Brazil. It is used externally as a stimulant and parasiticide in certain skin-diseases.

It is generally prescribed in the form of ointment. It is rarely used on the face, as it stains the skin dark brown. Care must be taken not to allow it to come in contact with clothing, on account of its staining properties. It is excreted by the kidneys, and it imparts to the urine a yellow color. Gastro-intestinal symptoms, such as vomiting and purging, may follow its internal use. It is an active irritant poison.

Cimicifuga (Black Snakeroot).—**Action and Uses.**—Cimicifuga is the dried rootlets of a perennial plant (*Cimicifuga racemosa*) growing in the woodlands of North America. It is chiefly used as an antispasmodic in chorea, or St. Vitus' dance. Large doses induce headache, nausea, vertigo, tremors, prostration, and collapse.

Dose.—*Extract of Cimicifuga* (Extractum Cimicifugæ).—From 1 to 5 grains (0.065–0.32 gm.).

Fluidextract of Cimicifuga (Fluidextractum Cimicifugæ).—From 10 to 30 minims (0.6–2.0 c.c.).

Tincture of Cimicifuga (Tinctura Cimicifugæ).—From 1 to 2 drams (4–8 c.c.).

Cinchona (Peruvian Bark).—Action and Uses.—Cinchona is the bark of several species of Cinchona, tall evergreen trees growing in South America and other tropic countries. Its medical properties depend upon a number of alkaloids, the chief of which are *quinin* and *cinchonin*.

In small doses quinin acts as a stomachic and bitter tonic, and as such it is much used in the convalescence of acute diseases to promote strength. Large doses (15 to 20 grains) lower temperature in febrile states, but are not so prompt and certain in their antipyretic effect as antipyrin or phenacetin. Quinin possesses to some extent the power of intensifying uterine contractions, and for this purpose it is sometimes prescribed during labor when the pains are inefficient owing to weakness or fatigue. While quinin does not possess great power as a general germicide, it is highly destructive to the parasite of malarial fever, and as yet no drug has proved so effective in the treatment of this disease.

Large doses of quinin cause ringing in the ears, fulness in the head, headache, deafness, and dimness of vision—a group of symptoms to which the term *cinchonism* has been applied. Toxic doses cause, in addition, delirium, stupor, convulsions, and coma. In some persons even small doses of the drug are followed by extensive rashes on the skin.

Quinin is rapidly absorbed. It may accumulate, but it is mostly eliminated in eight hours, practically all in twenty-four or forty-eight hours, chiefly by the kidneys.

Quinin may be given by the mouth, by the rectum, or hypodermically. It is given hypodermically in cases of great urgency, as in the pernicious forms of malarial fever. Soluble preparations, such as the hydrobromate or dihydrochlorate, are selected for subcutaneous use; the injections are given deeply, and are made under strict antiseptic precautions, otherwise abscess is liable to follow.

Preparations and Doses.—*Quinin Sulphate* (Quininæ Sulphas).—From 1 to 3 grains (0.06–0.2 gm.) as a tonic; 15 to 30 grains (1–2 gm.) as an antipyretic; and 20 to 40 grains (1.3–2.6 gm.) as an antimalarial. It is best given in freshly made pills, capsules, or solution. Old pills become very hard and so are apt to escape absorption. When quinin sulphate is prescribed in solution, a few drops of dilute sulphuric acid are usually added to make the drug more soluble. Syrup of chocolate, syrup of licorice, and syrup of yerba santa are frequently used to cover the bitter taste of the quinin.

Quinin Bisulphate (Quininæ Bisulphas).—This salt is more soluble than the sulphate. *Dose*, 1 to 30 grains (0.06–2.0 gm.).

Quinin Hydrochlorid (Quininæ Hydrochloridum).—*Dose*, 1 to 30 grains (0.06–2.0 gm.). This salt is the therapeutic equivalent of the sulphate.

Quinin Hydrobromid (Quininæ Hydrobromidum).—Used hypodermically on account of its solubility. *Dose*, 1 to 30 grains (0.06–2.0 gm.).

Quinin Valerate (Quininæ Valeras).—This salt is both tonic and antispasmodic. *Dose*, 1 to 10 grains (0.06–0.6 gm.).

Quinin Tannate (Quininæ Tannas).—A weak but almost tasteless preparation. *Dose*, 1 to 30 grains (0.06–2.0 gm.).

Euquinin (Euchinin; Ethyl Carbonic Ester of Quinin).—A weak but tasteless preparation of quinin. *Dose*, 5 to 60 grains (0.3–4.0 gm.).

Extract of Cinchona (Extractum Cinchonæ).—This and the following preparations of cinchona are chiefly used as bitter tonics. *Dose*, 5 to 15 grains (0.3–1.0 gm.).

Fluidextract of Cinchona (Fluidextractum Cinchonæ).—*Dose*, ½ to 1 dram (2–4 c.c.).

Tincture of Cinchona (Tinctura Cinchonæ).—*Dose*, 1 to 2 drams (4–8 c.c.).

Compound Tincture of Cinchona (Tinctura Cinchonæ Composita; Huxham's Tincture).—*Dose*, 1 to 4 drams (4–15 c.c.).

Cinchonin (Cinchonina).—An alkaloid of cinchona bark resembling quinin in its action, but less powerful.

Dose, 1 to 30 grains (0.06–2.0 gm.).

Cinnamon (Cinnamomum).—**Action and Uses.**—Cinnamon is the bark of evergreen trees (*Cinnamomum aromaticum* and other species of Cinnamomum) growing in China, Ceylon, and other tropic islands. It contains a volatile oil and a small quantity of tannic acid. It is a carminative and a feeble astringent. It is used externally for flavoring purposes.

Dose.—*Oil of Cinnamon* (Oleum Cinnamomi).—From 1 to 5 minims (0.06–0.3 c.c.).

Cinnamon Water (Aqua Cinnamomi).—From ½ to 1 ounce (15–30 c.c.).

Spirit of Cinnamon (Spiritus Cinnamomi).—From 5 to 30 minims (0.3–2.0 c.c.).

Tincture of Cinnamon (Tinctura Cinnamomi).—From ½ to 1 dram (2–4 c.c.).

Aromatic Powder (Pulvis Aromaticus).—From 10 to 30 grains (0.6–2.0 gm.).

Aromatic Fluidextract (Fluidextractum Aromaticum). —From 10 to 60 minims (0.6–4.0 c,c.).

Cloves (Caryophyllus).—**Action and Uses.**—Cloves are the flowers of an evergreen tree (*Eugenia aromatica*) growing in the East Indian Islands. They are used as a carminative, a mild counterirritant, and as a local anodyne. As a carminative the oil is often combined with purgative drugs to prevent griping. As a counterirritant they are employed in the form of the spice poultice, which consists of powdered cloves, ginger, and cinnamon, of each one or two teaspoonfuls; flour, a tablespoonful; whisky, enough to make a paste sufficiently soft to spread on flannel. As an anodyne, oil of cloves is often applied on cotton to the cavity of a tooth to allay toothache.

Dose.—*Oil of Cloves* (Oleum Caryophylli).—From 1 to 5 minims (0.06–0.3 c.c.).

Infusion of Cloves or Clove-tree (Infusum Caryophylli). —Two drams to the pint of boiling water—1 wineglassful.

Coca (Erythroxylon).—**Action and Uses.**—Coca is the leaves of a shrub (*Erythroxylon coca*) growing in South America. Its active principle is the alkaloid *cocain*. Coca and cocain are cerebral stimulants, in moderate doses inducing a sense of exhilaration. They tend also to produce wakefulness and to lessen the feeling of hunger, thirst, and fatigue. Upon the respiration and circulation they have a powerful stimulant effect.

Locally, cocain has no action upon the unbroken skin, but upon mucous membranes and subcutaneous tissue it acts as an anesthetic by paralyzing the peripheral sensory nerves. Its application to mucous membranes also gives rise to blanching, and later to marked congestion,

Applied to the eye, it not only anesthetizes the conjunctiva, but it also dilates the pupil.

Both cocain and the fluid extract of coca are sometimes employed as general stimulants in low fevers. As a respiratory stimulant cocain has been found very useful in opium-poisoning. The most important use of the drug, however, is as a local anesthetic. Owing to its benumbing influence on the nerves of the stomach, it is often of service as an antiemetic.

Dose, 30 to 60 grains (2–4 gm.).

Fluidextract of Coca (Fluidextractum Cocæ).—From ½ to 2 drams (2–8 c.c.).

Wine of Coca (Vinum Cocæ).—From 2 to 8 drams (8.0–30.0 c.c.).

Cocain Hydrochlorid (Cocainæ Hydrochloridum).—From ⅛ to ½ grain (0.008–0.03 gm.).

The usual strengths used locally are a 2 and a 4 per cent. solution.

To make a 2 per cent. solution, 10 grains (0.6 gm.) are added to 1 ounce of water (30 c.c.).

To make a 4 per cent. solution, 20 grains (1.3 gm.) are added to 1 ounce of water (30 c.c.).

By using the cocain tablets a fresh solution is made at a moment's notice. These tablets are convenient, and, as they contain accurately weighed quantities of pure cocain, they almost compel accuracy in the preparation.

Poisoning.— *Symptoms.*— Nervous excitement, delirium, stupor, vomiting, hurried breathing, a rapid pulse, elevation of temperature, dilatation of the pupils, and convulsions.

The *treatment* consists in evacuating the stomach and administering ammonia, ether, and caffein when there is evidence of depression. Cocain-poisoning with convulsions is to be treated with the remedies that are employed

in strychnin poisoning, namely, with bromids and chloral.

Cocain Habit.—The repeated application of cocain to mucous membranes like those of the nose and throat has been a potent factor in inducing the *cocain habit*, the symptoms of which are mental failure, delusions, loss of flesh and strength, marked disturbances of digestion, and an intense craving for the drug.

Codein (Codeina).—**Action and Uses.**—Codein is an alkaloid obtained from opium. Its action is similar to that of morphin, but it is less powerful and less liable to induce nausea and constipation. It is used as a nerve-sedative.

Dose, ½ to 2 grains (0.03–0.13 gm.).

The **symptoms of poisoning** are the same as those produced by morphin, and the **treatment** is the same.

Cod-liver Oil (Oleum Morrhuæ).—Cod-liver oil is chiefly valuable as a nutrient tonic in wasting diseases. It has advantages over other fats in being more digestible and assimilable, and in containing small quantities of iodin and phosphorus, which probably exert an alterative effect.

Dose, 1 to 4 drams (4–15 c.c.), preferably two hours after meals, either alone or in emulsion with some agreeable vehicle to conceal its taste and to prevent nausea. Pure oil may be taken in milk, being dropped in the center of the tumbler and the milk rapidly drunk without the oil touching the sides of the glass. In the same way it may be administered in the froth of porter. The best cover to disguise the taste is the oil of bitter almond.

When the oil cannot be taken by the mouth, it may be applied to the skin with friction, absorption readily taking place. From 1 to 4 drams (4–15 c.c.) may be rubbed into the skin over the chest and abdomen each night before retiring.

Emulsion of Cod-liver Oil (Emulsum Olei Morrhuæ).—From 2 to 6 drams (8.0–24.0 c.c.).

Emulsion of Cod-liver Oil with Hypophosphites (Emulsum Olei Morrhuæ cum Hypophosphitibus).—From 2 to 6 drams (8.0–24.0 c.c.).

Colchicum.—Action and Uses.—Colchicum is the root and seed of the *Colchicum autumnale*, growing in Europe. It contains an alkaloid, *colchicin*. The chief use of colchicum is as an alterative in gout and chronic rheumatism. Overdoses produce violent inflammation of the stomach and intestines.

Dose.—*Extract of Colchicum Root* (Extractum Colchici Cormi).—From $\frac{1}{2}$ to 2 grains (0.032–0.13 gm.).

Colchicum Seed (Colchici Semen).—From 2 to 8 grains (0.13–0.5 gm.).

Fluidextract of Colchicum Seed (Fluidextractum Colchici Seminis).—From 2 to 5 minims (0.12–0.3 c.c.).

Tincture of Colchicum Seed (Tinctura Colchici Seminis).—From $\frac{1}{2}$ to 1 dram (1.8–4.0 c.c.).

Wine of Colchicum Seed (Vinum Colchici Seminis).—From 15 to 60 minims (1–4 c.c.).

Colchicin (Colchicina).—From $\frac{1}{150}$ to $\frac{1}{60}$ of a grain (0.0004–0.0012 gm.).

Poisoning.—The *symptoms* are nausea, severe griping, violent vomiting, purging, a rapid, feeble pulse, slow respirations, cold, clammy skin, prostration, convulsions, and collapse, the senses remaining clear to the last.

Treatment.—Tannic acid is the antidote. Emetics should be given or the stomach-pump used. Warm demulcent drinks and heart-stimulants are indicated.

Collodion (Collodium).—Action and Uses.—Collodion is gun-cotton dissolved in alcohol and ether. It is used to retain small antiseptic dressings and to secure an air-tight covering for small wounds. It is painted over

the part with a camel's-hair brush or a cotton swab. The stopper must not be kept out of the collodion bottle for more than a moment, as the ether speedily evaporates, leaving the liquid thick and unfit for use.

Flexible Collodion (Collodium Flexile).—This preparation contains Canada turpentine and castor oil, which prevent hardening and contraction.

Styptic Collodion (Collodium Stypticum).—This preparation contains tannic acid, and is sometimes applied to small wounds to arrest bleeding.

Cantharidal Collodion (Collodium Cantharidatum).—This preparation contains 60 per cent. of cantharides, and is sometimes used instead of the plaster of cantharides for raising blisters.

Colocynth (Colocynthis).—**Action and Uses.**—Colocynth, the dried fruit of *Citrullus colocynthis*, is a rapidly acting drastic cathartic. It is rarely used alone, but in combination with other cathartics.

Dose.—*Extract of Colocynth* (Extractum Colocynthidis).—From 2 to 5 grains (0.13–0.32 gm.).

Compound Extract (Extractum Colocynthidis Compositum).—From 5 to 20 grains (0.32–1.3 gm.), used as a purge.

Compound Cathartic Pills (Pilulæ Catharticæ Compositæ).—These pills contain, in addition to the compound extract of colocynth, calomel, gamboge, and extract of jalap—from 1 to 3 pills.

Vegetable Cathartic Pills (Pilulæ Catharticæ Vegetabiles).—These pills contain compound extract of colocynth, extract of jalap, extract of hyoscyamus, extract of podophyllum, and extract of leptandra—from 1 to 3 pills.

In large doses colocynth is a violent irritant, producing fatal gastro-enteritis.

Columbo.—(See *Calumba.*)

Condy's Fluid.—(See *Potassium Permanganate.*)

Conium (Hemlock).—**Action and Uses.**—Conium is the fruit of *Conium maculatum*, growing in temperate regions. It owes its activity to the liquid alkaloid *coniin*. Its dominant action is on the peripheral motor nerves, which it depresses. It is sometimes employed in asthma, whooping-cough, and St. Vitus' dance as an antispasmodic and calmative.

Large doses of conium cause giddiness, staggering, muscular weakness, dilated pupils, disordered vision, dropping of the eyelids, frontal headache, sometimes nausea and vomiting, paralysis, and collapse.

Treatment of Poisoning.—The stomach should be emptied by the stomach-pump or emetics; heart-stimulants, external heat, and artificial respiration are indicated.

Dose.—*Extract of Conium* (Extractum Conii).—From $\frac{1}{2}$ to 1 grain (0.03–0.065 gm.).

Fluidextract of Conium (Fluidextractum Conii).—From 2 to 5 minims (0.1–0.3 c.c.).

Coniin Hydrobromid (Coniinæ Hydrobromidum).—From $\frac{1}{20}$ to $\frac{1}{6}$ grain (0.003–0.01 gm.).

Convallaria (Lily of the Valley).—**Action and Uses.**—The action of convallaria is similar to that of digitalis. It stimulates the heart and increases the secretion of urine. While it is free from cumulative action and is not prone to disturb the stomach, it is far less reliable as a heart-stimulant and diuretic than digitalis.

Dose.—*Fluidextract of Convallaria* (Fluidextractum Convallariæ).—From 5 to 20 minims (0.3–1.2 c.c.).

Copaiba (Balsam of Copaiba).—**Action and Uses.**—Copaiba is a resinous principle obtained from a small tree

(*Copaiba Langsdorffii*) growing in South America. It is a viscid liquid, with an aromatic odor and an acrid taste. It contains a volatile oil—*oil of copaiba.* It is employed chiefly as a stimulant diuretic and a stimulant expectorant.

Dose.—*Oil of Copaiba* (Oleum Copaibæ).—From 5 to 15 minims (0.3–1.0 c.c.).

Copper (Cuprum).—**Action and Uses.**—Copper is not used medicinally in the form of the metal itself, but as one of its salts. Used locally, the salts in a weak solution have a mild astringent and stimulant action; in strong solution they are irritants, and in powder form they have a caustic action. Internally, in small doses, they exert an astringent action; in large doses they are emetics; in overdoses they are irritant poisons.

Preparations.—Sulphate of Copper (Cupri Sulphas; Blue-stone; Blue Vitriol).—*Action and Uses.*—Internally, in small doses, sulphate of copper is used as an astringent in chronic diarrhea; it large doses it is a prompt emetic, causing little depression and nausea. Copper sulphate is also an antidote to phosphorus. Externally, applied to mucous membranes or ulcers, it acts as an astringent, stimulant, and mild caustic.

Poisoning.—*Symptoms.*—Burning pain in the stomach, metallic taste in the mouth, vomiting of bluish or greenish liquids, purging, extreme thirst, irregular and rapid pulse, difficult breathing, convulsions, and death.

Treatment.—In the absence of the chemic antidote, which is potassium ferrocyanid, milk or white of eggs should be given, followed by emetics or the stomach-pump if necessary.

Dose, as an astringent, $\frac{1}{4}$ grain (0.016 gm.); as an emetic, 3 to 5 grains (0.2–0.3 gm.); for a child, 1 to 3 grains (0.065–0.2 gm.).

Arsenite of Copper (Cupri Arsenis).—Arsenite of copper is used as an intestinal antiseptic. *Dose*, $\frac{1}{200}$ to $\frac{1}{100}$ grain (0.00032–0.00065 gm.).

Corn-silk (Zea).—**Action and Uses.**—Corn-silk is collected from the ears of common Indian corn or maize. It is a feeble diuretic and a sedative to the mucous membrane of the urinary passages. It is sometimes used for its sedative properties in acute inflammation of the bladder.

Dose.—*Fluidextract of Corn-silk* (Fluidextractum Zeæ).—From $\frac{1}{2}$ to 2 drams (2–8 c.c.).

Infusion of Corn-silk (Infusum Zeæ).—Two ounces to 1 pint of boiling water—1 to 2 ounces (30–60 c.c.).

Cotton-root Bark (Gossypii Radicis Cortex).—**Action and Uses.**—This drug probably has an action on the uterus similar to that of ergot. It is rarely used as a substitute for ergot in stimulating uterine contractions.

Dose.—*Fluidextract of Cotton-root Bark* (Fluidextractum Gossypii Radicis).—From $\frac{1}{2}$ to 1 dram (2–4 c.c.).

Crede's Ointment (Unguentum Credé).—**Action and Uses.**—This is an ointment (15 per cent.) of soluble metallic silver. It is employed as a local remedy and also by inunction for its constitutional effect as an antiseptic remedy in various septic inflammatory diseases.

Dose, 30 to 45 grains (2–3 gm.) daily, by inunction.

Creolin (Creolinum).—**Action and Uses.**—Creolin is a coal-tar product nearly related to carbolic acid, and is used as an antiseptic and disinfectant. It is usually employed in the strength of a 2 per cent. solution, which is made by adding $2\frac{1}{2}$ teaspoonfuls of creolin to 1 pint of water. The official *Compound Solution of Cresol* (Liquor Cresolis Compositus) is a cheaper but equally effec-

tive preparation. Creolin and the compound solution of cresol cannot be used for disinfecting instruments because the watery solution is opaque.

Creasote (Creosotum).—**Action and Uses.**—Creasote, an oily substance obtained from the destructive distillation of beechwood, is an antiseptic, local sedative, gastric sedative, and expectorant. It closely resembles carbolic acid in its effects, but it is much less irritant and poisonous. It is much used as an expectorant in chronic bronchitis and phthisis. It is used as a remedy in toothache, one or two drops being applied on a pledget of cotton-wool and placed in the cavity of the tooth.

Creasote gives to the urine a blackish color. The **symptoms of poisoning** and the **treatment** are the same as those of carbolic acid.

Dose, 1 to 10 minims (0.06–0.6 c.c.).

Creasote Water (Aqua Creosoti).—A 1 per cent. solution of creasote—1 to 4 drams (4–15 c.c.).

Inhalation of Creasote (Vapor Creosoti).—Twelve minims of creasote added to 8 ounces of boiling water.

Creasote Ointment (Unguentum Creosoti).—For local use.

Creasote Carbonate (Creosotal).—This is any oily liquid, of a slightly bitter taste, but without the odor of creasote. It is frequently used in place of the latter in phthisis and bronchial catarrh.

Dose, 5 to 20 minims (0.3–1.2 c.c.).

Croton Oil (Oleum Tiglii; Oleum Crotonis).—**Action and Uses.**—This is an oil expressed from the seeds of a small tree (*Croton tiglium*) growing in China and the adjacent islands. It is a powerful irritant to the skin, causing inflammation attended with a pustular eruption

which heals by scabbing. Internally it is a drastic cathartic, employed when a speedy evacuation of the bowel is necessary, as in obstinate constipation, apoplexy, uremia, and acute delirium. Externally it is used as a counterirritant.

Dose, 1 or 2 drops (0.06–0.12 c.c.) given in sugar, glycerin, or bread-crumb. When the patient is unconscious or delirious, the drops should be placed on the back of the tongue, so that they will be swallowed involuntarily.

When applied externally, the oil is sprinkled on a piece of white flannel and rubbed over the part or allowed to remain until it is well reddened. When a mild action is required, it is sometimes diluted with olive oil or other liniments.

Poisoning.—The *symptoms* are violent purging and vomiting, burning pain in the throat, stomach, and abdomen, and great prostration.

Treatment.—Demulcent drinks, such as gruel, linseed tea, or milk, should be given. The stomach should be emptied by emetics or the stomach-pump. External heat, friction, and heart-stimulants are indicated.

Croton Chloral.—(See *Butyl-chloral Hydrate.*)

Cubeb (Cubeba).—**Action and Uses.**—Cubeb is the unripe fruit of a climbing plant (*Piper Cubeba*) growing in the island of Borneo. It contains a volatile oil and a resin. Cubeb resembles copaiba in its action, and, like the latter, is used as a stimulant diuretic and a stimulant expectorant.

Dose.—*Oleoresin of Cubeb* (Oleoresina Cubebæ).—From 5 to 15 minims (0.3–1.0 c.c.).

Oil of Cubeb (Oleum Cubebæ).—From 5 to 15 minims (0.3–1.0 c.c.).

Fluidextractum of Cubeb (Fluidextractum Cubebæ).—From 10 to 30 minims (0.6–2.0 c.c.).

Troches of Cubeb (Trochisci Cubebæ).—Each contains about ⅓ grain (0.02 gm.) of the oleoresin—4 to 6 daily.

Cusso (Kousso; Brayera).—**Action and Uses.**—Cusso is the flower of a tree (*Hagenia abyssinica*) growing in the mountains of Abyssinia. It is used solely as a vermifuge against the tape-worm. It is generally prescribed in the form of an infusion. It sometimes produces nausea and vomiting.

Dose.—*Fluidextract of Cusso* (Fluidextractum Cusso).—From 2 to 4 drams (8–15 c.c.).

Infusion of Cusso (Infusum Cusso).—One-half ounce of the powdered flowers in 1 pint of boiling water, allowed to stand for fifteen minutes in a covered vessel, and drunk without straining. From 1 to 2 ounces (30–60 c.c.), to be taken on an empty stomach.

Daturin.—(See *Stramonium.*)

Deadly Nightshade.—(See *Belladonna.*)

Dermatol.—(See *Bismuth Subgallate.*)

Dialyzed Iron (Ferrum Dialysatum).—(See *Iron.*)

Diastase.—This is a starch-digesting ferment obtained from malted grain. It is a yellowish powder, tasteless, and soluble in water. Extracts of malt contain variable quantities of this ferment. It is sometimes given before meals in those forms of dyspepsia in which there is difficulty in digesting starchy food.

Dose, 3 to 5 grains (0.2–0.3 gm.).

Digitalis (Foxglove).—**Action and Uses.**—Digitalis is the leaves of the *Digitalis purpurea.* It contains a number of glucosids, the most important of which are

digitalin, digitoxin, digitalein, digitin, and digitonin. The most active of these are digitalin and digitoxin, but neither represents the complete action of the crude drug. The physiologic action of digitalis is chiefly on the circulatory system. Under its influence the pulse becomes strong and slow. The increased force of the pulse is due to the stimulant action of the drug upon the heart and muscular coat of the arteries; and the slowing of the pulse to stimulation of the inhibitory nerves (pneumogastric) of the heart.

By lengthening the diastole it allows a longer time for the ventricles to become filled with blood, and by strengthening the systole it permits of a more complete emptying of those chambers, the result being an improvement in the general nutrition of the heart.

Digitalis also acts as a diuretic, not by any effect exerted upon the kidney cells directly, but by increasing the blood-pressure in the organ.

Digitalis is employed chiefly to meet three indications: To strengthen a weak heart; to slow a rapid heart; and to increase the urinary flow, especially in dropsy.

A patient who is taking the drug continuously in large doses should be kept in bed and not be allowed to sit up suddenly or make any sudden movement, as fatal syncope may occur.

The uninterrupted use of digitalis is sometimes followed by toxic symptoms. These are the result of a cumulative action and are especially liable to occur when there is no diuretic effect. The earliest evidences of this accident are marked irregularity of the pulse and a sense of distress about the heart.

Poisoning.—*Symptoms.*—The pulse at the wrist is rapid, feeble, and irregular, while the heart-beats are most

powerful. The pupils are dilated, the eyes prominent, and the whites of the eyes of a peculiar bluish luster. Severe headache and obstinate vomiting are frequent symptoms. The mind is usually clear until near the end.

Treatment.—The chemic antidote is tannic acid. The stomach should be emptied by emetics or the stomach-pump, the latter being preferable when the circulation is much disturbed. The horizontal position should be rigidly maintained. The temperature of the body should be kept up by external heat.

Dose.—*Powdered Digitalis Leaves* (Pulvis Digitalis).—From $\frac{1}{2}$ to 2 grains (0.03–0.13 gm.).

Extract of Digitalis (Extractum Digitalis).—From $\frac{1}{6}$ to $\frac{1}{4}$ grain (0.01–0.16 gm.).

Tincture of Digitalis (Tinctura Digitalis).—From 5 to 20 minims (0.3–1.2 c.c.).

Fluidextract of Digitalis (Fluidextractum Digitalis).—From 1 to 2 minims (0.06–0.12 c.c.).

Infusion of Digitalis (Infusum Digitalis).—From 1 to 4 drams (4–15 c.c.).

As a diuretic, digitalis is also used externally in the form of stupes (flannels wet with the tincture) and poultices applied to the abdomen. The poultices may be made from the dried leaves or any of the fluid preparations.

Digitalin (Digitalinum).—This is one of the five glucosids of digitalis, and is used for the same purposes as the crude drug.

Dose, $\frac{1}{100}$ to $\frac{1}{60}$ grain (0.00065–0.001 gm.). When given hypodermically, it is more irritating than the tincture or the fluid extract.

Digitoxin resembles digitalin in its action, but is more irritant.

Dose, $\frac{1}{200}$ to $\frac{1}{100}$ grain (0.0003–0.0006 gm.).

Diuretin (Salicylate of Theobromin and Sodium).—Action and Uses.—Diuretin is used as a pure diuretic in dropsy the result of heart-, liver-, and kidney-disease. Theobromin is an alkaloid obtained from chocolate beans, and the sodium salt is added to make the alkaloid soluble.

Dose, 5 to 10 grains (0.3–0.65 gm.).

Dobell's Solution.—This is a solution consisting of borax and sodium bicarbonate, of each 30 grains (2 gm.); carbolic acid, 15 grains (1 gm.); glycerin, 4 drams (15 c.c.), and water, 1 pint (0.5 L.). It is a very useful antiseptic and detergent wash for the nose and throat.

Donovan's Solution.—(See *Arsenic.*)

Dover's Powder.—(See *Opium.*)

Duboisin Sulphate.—Duboisin is an alkaloid obtained from the leaves of a small tree (*Duboisia myoporoides*) growing in Australia. It is used in ophthalmic practice as a substitute for atropin. It dilates the pupil more energetically and more promptly than atropin, but its effects are not so lasting. It is sometimes used internally as a nerve-sedative and hypnotic. Large doses cause dryness of the throat, vertigo, headache, rapid pulse, and hurried breathing.

Dose, $\frac{1}{100}$ to $\frac{1}{60}$ grain (0.00065–0.001 gm.).

Dionin.—This is an artificial alkaloid prepared from morphin. It resembles codein in its action.

Dose, $\frac{1}{4}$ to $\frac{1}{2}$ grain (0.004–0.03 gm.).

Egg-albumen (Ovi Albumen).—The liquid white of the egg.

Action and Uses.—Egg-albumen is nutritive and demulcent. It is an antidote in poisoning from irritants and corrosives.

The solution of albumin is made by adding 4 ounces of water to the white of one egg.

Yolk of Egg (Ovi Vitellus).—The yolk of egg is very nutritive, and may be given in the form of egg-flip or egg-nog. Egg-flip is made by beating up thoroughly the yolk of one egg with 2 ounces of brandy, 2 ounces of cinnamon-water, and ½ ounce of fine sugar. Egg-flip is also called brandy mixture.

Elaterium.—Action and Uses.—Elaterium is a substance obtained from the squirting cucumber (*Ecballium Elaterium*), a vine growing on the shores of the Mediterranean Sea. It owes its active properties to a neutral principle, *elaterin*. Elaterium is a powerful hydragogue cathartic, producing copious watery movements, with some griping. Large doses cause inflammation of the stomach and bowels and great prostration.

Dose.—*Elaterium*.— From ⅛ to ¼ grain (0.008–0.016 gm.).

Elaterin (Elaterinum).—From $\frac{1}{30}$ to $\frac{1}{10}$ grain (0.002–0.0065 gm.).

Trituration of Elaterin (Trituratio Elaterini).—From ¼ to 1 grain (0.016–0.065 gm.).

Emetin.—This is one of the alkaloids of ipecac. (See *Ipecac.*)

Epsom Salt (Magnesium Sulphate).—(See *Magnesium.*)

Ergot (Ergota).—Action and Uses.—Ergot is a purplish-black fungus growing on the grain of common rye. It contains a number of active substances, the chief of which is *sphacelotoxin*. Ergot has two important actions: It stimulates uterine contractions and constricts the arterioles by stimulating the vasomotor mechanism in the brain. It is chiefly used as an oxytocic and as a hemo-

static. As an oxytocic it is sometimes employed to hasten delivery when the power of the uterine contractions is not sufficient to expel the fetus; but the best obstetricians condemn the practice, the danger in this procedure being the production of "hour-glass contraction" and consequent retention of the fetus.

As a hemostatic, it may be used in all hemorrhages where surgical means cannot be employed. When used to prevent postpartum hemorrhage, it should not be given hypodermically until after the placenta is delivered, unless otherwise ordered, because it acts chiefly on the circular fibers of the uterus, and after its administration the uterus is apt to close and prevent the escape of the placenta. The hypodermic use of ergot is sometimes followed by subcutaneous abscesses, and for this reason many obstetricians prefer to give a full dose by the mouth during the second stage, when the head of the child is beginning to emerge at the vulva. Its action by the mouth is slow, requiring from fifteen to twenty minutes, consequently it is of no value if its administration is delayed until after the occurrence of hemorrhage, unless it is given hypodermically.

Large doses of ergot produce headache, nausea, vomiting, thirst, purging, giddiness, dilated pupils, great restlessness, coldness of the surface, and stupor. The prolonged use of the drug is sometimes followed by gangrene of the fingers or toes.

Dose.—*Extract of Ergot* (Extractum Ergotæ).—From 1 to 15 grains (0.065–1.0 gm.).

Fluidextract of Ergot (Fluidextractum Ergotæ).—From ½ to 1 dram (2–4 c.c.).

Wine of Ergot (Vinum Ergotæ).—From 1 to 4 drams (4–15 c.c.).

Tincture of Ergot (Tinctura Ergotæ).—From ½ to 1 dram (2–4 c.c.).

Bonjean's Ergotin.—From 2 to 5 grains (0.13–0.32 gm.).

Ergot is given hypodermically when prompt action is required. As it is very irritating to the tissues, it should first be strained and then injected deep into the muscle of the thigh. The risk of subsequent suppuration is then decidedly diminished.

Erigeron (Fleabane).—**Action and Uses.**—This is an animal shrub (*Erigeron canadensis*) growing in North America. It is usually employed medicinally in the form of the oil of erigeron, which resembles the oil of turpentine in its action. Oil of erigeron is used as a stimulant diuretic and as an internal hemostatic.

Dose, 5 to 15 minims (0.3–1.0 c.c.).

Eriodictyon (Yerba Santa).—**Action and Uses.**—Eriodictyon is the leaves of an evergreen shrub (*Eriodictyon californicum*) growing in California. It is employed to some extent as a stimulant expectorant in bronchitis, and in the form of the aromatic syrup to disguise the bitter taste of quinin.

Dose.—*Fluidextract of Eriodictyon* (Fluidextractum Eriodictyi).—From 20 to 60 minims (1.2–4.0 c.c.).

Aromatic Syrup of Eriodictyon (Syrupus Eriodictyi Aromaticus).—This contains also cardamom, sassafras, lemon, and cloves—1 to 4 drams (4 to 15 c.c.).

Erythroxylon.—(See *Coca.*)

Eserin.—(See *Physostigma.*)

Ether (Æther; Ethyl Oxid).—**Action and Uses.**—Ether is a colorless, volatile, highly inflammable liquid, obtained by the action of sulphuric acid on alcohol. It

should be kept in well-stoppered containers, in a cool place, remote from lights or fire.

Ether has the following actions: small doses excite the brain; large doses depress the brain and spinal cord, producing general anesthesia; moderate doses stimulate the heart and circulation and large doses depress the heart; medicinal doses stimulate, and toxic doses paralyze, the respiratory center. When applied to the skin and allowed to evaporate, it produces intense coldness and finely marked local anesthesia. If evaporation be prevented, it causes severe irritation.

Ether is used as a general anesthetic and as a quickly acting heart-stimulant in collapse; and in the form of a spray as a local anesthetic in minor operations. Compound spirit of ether (Hoffmann's anodyne) is used as a general stimulant, antispasmodic, and carminative.

The essentials in the administration of ether are as follows: The stomach, bladder, and bowels should be empty. When given on a full stomach, the patient may vomit, and particles of food may lodge in the larynx or trachea and cause suffocation. If the bladder and bowels are not emptied, they may act involuntarily. False teeth should always be removed, as there is danger of their being swallowed. A stimulating enema of whisky, 1 ounce to 2 ounces of warm water, is often given two hours before etherization; $\frac{1}{100}$ grain of atropin is sometimes given one hour before etherization, to lessen the irritability of the stomach caused by the ether and to diminish the secretions of the mouth and throat.

Many surgeons prefer to give subcutaneously, just before the patient is etherized, morphin $\frac{1}{6}$ grain, or codein

½ grain, to diminish shock by supporting the nervous system during the operation.

No food should be given after midnight unless the operation is to be performed late on the following day, in which case the patient is usually allowed, six hours before the operation, some coffee, beef-tea, or gruel. Milk should not be given, as it is not easily digested and the curd may stay in the stomach, and if vomited while the patient is under ether, may obstruct the larynx or trachea; or if the operation is abdominal, the curd may pass along the intestine and act as an irritant.

Ether should be given slowly, the patient being instructed how to inhale it and allowed plenty of time in which to take it. When inhaled, it first reddens the face, stimulates the heart, and exhilarates the patient; later the muscles become rigid and the breathing stertorous; finally this stage passes away, and the muscles relax and the patient passes into a state of insensibility.

The lower jaw should be kept forward by placing the thumb behind the angles of the jaw and making gentle pressure. This prevents the tongue from slipping back and obstructing the larynx, and allows free access of air to the lungs. Holding the tongue forward by means of passing a suture through the tongue should not be done; neither should too much pressure be put on the tongue-forceps, as it causes the tongue to become sore and swollen. The pulse and respirations must be watched carefully. The surgeon should be notified if the pulse becomes rapid, feeble, irregular, or intermittent; if the respirations become low, shallow, gasping, or sighing; if the face becomes blue or pale, or the pupils widely dilated. Ordinarily, the pupils remain contracted all through etherization, and dilate only when the patient

is coming out of ether. Prolonged anesthesia may lead to secondary prostration and collapse and to secondary shock from that cause alone; in other words, the prostration of the anesthetic is added to the effects of the operation. Death from ether is usually by failure of the respiration, the heart beating long after the respirations have ceased.

It should be remembered that ether is very inflammable, and if there is a light in the room, it should be above the patient, as the vapor of ether is heavier than air. Should the vapor take fire, the patient's face should be covered with a wet towel.

Nausea and vomiting following the administration of ether usually cease at the end of eighteen hours. Should they persist, they may be due to shock or to some cause other than ether. They may be relieved sometimes by the inhalation of hot vinegar fumes (a cloth wet with hot vinegar being placed over the mouth and nose) or by administration of teaspoonful doses of very hot water (either plain or containing 4 grains of bicarbonate of sodium to the ounce), crushed ice, champagne and ice, small doses of brandy and ice, black coffee, aromatic spirits of ammonia, or tea. Cocain, $\frac{1}{2}$ grain every two hours for five doses, has been successful in severe cases.

Preparations and Dose.—*Ether* (Æther).—From 5 to 30 minims (0.3–2.0 c.c.) in capsule, in iced water, or hypodermically.

Spirit of Ether (Spiritus Ætheris).—From 1 to 3 drams (4–11 c.c.).

Compound Spirit of Ether (Spiritus Ætheris Compositus; Hoffmann's Anodyne).—From $\frac{1}{2}$ to 1 dram (2–4 c.c.).

Ethyl Bromid (Æthyl Bromidum; Hydrobromic Ether).—**Action and Uses.**—This is a colorless, volatile,

highly inflammable liquid, obtained by distilling a mixture of alcohol, sulphuric acid, and potassium bromid. On exposure it liberates free bromin and becomes unfit for use. It is employed chiefly as a general anesthetic for short operations. Its action resembles that of chloroform, but it is more prompt and its effects are less lasting. It rarely causes disagreeable after-effects, such as nausea and vomiting, but it leaves a disagreeable garlicky odor on the breath which may persist for several days. Anesthesia with hydrobromic ether is usually accomplished within a minute, and lasts from two to three minutes. As an anesthetic it is not so safe as nitrous oxid or ether.

Dose, 1 to 6 drams (4–22 c.c.) by inhalation from an air-tight cone held firmly over the nose and mouth.

Ethyl Chlorid (*Æthyl Chloridum*).—**Action and Uses.**—Ethyl chlorid is a colorless, volatile, inflammable liquid, prepared by the action of hydrochloric-acid gas on absolute alcohol. It is usually sold in glass tubes. Owing to the intense cold produced by its rapid evaporation, ethyl chlorid is employed as a local anesthetic for minor operations. After the removal of the tip of the tube the heat of the hand is sufficient to cause the liquid to escape in the form of a fine spray. The tube is held a few inches from the part to be operated upon, which turns white and becomes anesthetized in from fifteen to twenty seconds.

Ethyl Iodid (*Æthyl Iodidum*; Hydriodic Ether).—This is a colorless, volatile liquid, with a penetrating, unpleasant odor. It is readily decomposed by keeping, liberating free iodin. Its chief use is as an antispasmodic in asthma.

Dose, 5 to 10 minims (0.3–0.6 c.c.) inhaled from a handkerchief or small vial held near the nostrils.

Eucain.—Action and Uses.—Eucain is an artificial alkaloid allied chemically to cocain. Beta-eucain, the preparation usually selected, is employed as a local anesthetic. It is somewhat less toxic than cocain, and its solution can be sterilized by boiling without diminishing its efficacy. Unlike cocain, it does not constrict the peripheral vessels nor blanch the part to which it is applied.

Eucalyptus.—Action and Uses.—Eucalyptus is the leaves of the blue-gum tree (*Eucalyptus Globulus*) growing in Australia and other subtropic countries. It contains a volatile oil (*oil of eucalyptus*) which has an aromatic odor and a pungent, spicy taste. The active constituent of the oil is a neutral body—*eucalyptol.*

Oil of eucalyptus is a local irritant. Applied to the skin in concentrated form, it produces redness and even vesication. Internally, in large doses, it causes burning in the throat and stomach, nausea, diarrhea, mental exhilaration, and, ultimately, collapse and asphyxia. It is eliminated by the lungs, skin, and kidneys, and imparts to the urine the odor of violets. Both the oil and eucalyptol are active antiseptics, and for this reason they enter into many applications intended for the nose and throat. Internally, they are used chiefly as stimulant expectorants in subacute and chronic bronchitis.

Dose.—*Oil of Eucalyptus* (Oleum Eucalypti).—From 3 to 10 minims (0.2–0.6 c.c.).

Eucalyptol.—From 3 to 10 minims (0.2–0.6 c.c.).

Fluidextract of Eucalyptus (Fluidextractum Eucalypti).—From 20 to 60 minims (1.2–4.0 c.c.).

Euonymus (Wahoo).—Action and Uses.—Euonymus is the bark of the root of a shrub (*Euonymus atropurpureus*) growing in North America. It is a mild,

slowly acting laxative. It is said to act particularly on the liver.

Dose, 3 to 20 grains (0.2–1.3 gm.).

Euonymin, the active principle of euonymus, is given in combination with other cathartics as a hepatic stimulant. *Dose*, ½ to 3 grains (0.03–0.19 gm.).

Extract of Euonymus (Extractum Euonymi).—*Dose*, 3 to 5 grains (0.2–0.3 gm.).

Fluidextract of Euonymus (Fluidextractum Euonymi).—*Dose*, 5 to 15 minims (0.3–1.0 c.c.).

Eupatorium (Thoroughwort; Boneset).—**Action and Uses.**—Eupatorium is the leaves and flower of a perennial plant (*Eupatorium perfoliatum*) growing in North America. In small doses it is a bitter tonic; in large doses it is a diaphoretic, emetic, and cathartic.

Dose.—*Fluidextract of Eupatorium* (Fluidextractum Eupatorii).—From ½ to 1 dram (2–4 c.c.).

Decoction of Eupatorium (Decoctum Eupatorii).—This is made by boiling 1 ounce with ½ to 1 pint of water, is used as an emetic and cathartic—2 to 8 ounces (60–240 c.c.).

Infusion of Eupatorium, or Boneset Tea (Infusum Eupatorii).—Made by steeping 1 ounce of thoroughwort in 1 pint of boiling water for two hours in a covered vessel and then straining. *Dose* of the cold infusion, 1 to 2 ounces (30–60 c.c.). When diaphoretic action is required, the infusion should be given hot in doses of from 5 to 6 ounces. The patient should be kept in bed, warmly covered.

Europhen.—This is a coal-tar product containing about 28 per cent. of iodin. It is used as a substitute for iodoform, over which it has some advantages. It is employed as a dusting-powder or ointment in the strength of from 5 to 10 per cent.

Euquinin.—(See *Quinin.*)

Exalgin (Methyl-acetanilid).—**Action and Uses.**—This anilin derivative is a tasteless, crystalline powder closely resembling acetanilid in its action. It is analgesic, antipyretic, and antiseptic.

Dose, ½ to 5 grains (0.032–0.32 gm.), administered in capsules, cachets, alcoholic solution, or dry on the tongue.

Large doses cause headache, dizziness, trembling, cyanosis, and profuse sweating.

Fennel (Fœniculum).—**Action and Uses.**—Fennel is the fruit of a perennial herb (*Fœniculum vulgare*) growing in southern Europe. It is an agreeable carminative and aromatic.

Dose.—*Oil of Fennel* (Oleum Fœniculi).—From 1 to 5 minims (0.06–0.3 c.c.).

Water of Fennel (Aqua Fœniculi).—From 1 to 8 drams (4–30 c.c.).

An *infusion*, made by adding 3 drams of the seeds to 1 pint of boiling water, is sometimes used as an enema to expel flatus in infants.

Ferrum.—(See *Iron.*)

Fig (Ficus).—**Action and Uses.**—Figs are used as a laxative and demulcent. When eaten too freely, they are apt to cause painful diarrhea and flatulence. They are sometimes applied locally as a poultice to inflamed gums by splitting them and applying them roasted.

Filix-mas.—(See *Aspidium.*)

Flax-seed (Linum; Linseed).—**Action and Uses.**—Flax-seed tea is used internally as a demulcent drink in allaying cough and in forming a soothing protectant for inflamed mucous membranes.

Externally, a mixture of equal parts of linseed oil and lime-water, known as Carron oil, makes a soothing application for burns. The ground seed (flax-seed meal) is

extensively used in making poultices. The whole seeds are employed in making flax-seed tea.

Flax-seed Tea.—Take of flax-seed (whole), 1 ounce; white sugar, 1 tablespoonful; licorice root, 2 small sticks; lemon-juice, 4 tablespoonfuls. Pour on these materials a quart of boiling water; let it stand in a hot place for an hour and then strain. Another method is to pour 1 quart of boiling water over 5 ounces of flax-seed, boil from one-half to three-quarters of an hour, stand in a hot place for fifteen minutes, strain, and add lemon-juice and sugar to taste.

Formalin.—Action and Uses.—This is a colorless liquid having a very pungent odor and a caustic taste. It is a 40 per cent. solution of formaldehyd gas in water. A similar preparation is official as *Solution of Formaldehyd* (Liquor Formaldehydi). Formaldehyd gas is prepared by heating wood-alcohol. In the form of formalin or the official solution, formaldehyd is an active germicide and deodorant. As a germicide it is little, if at all, inferior to corrosive sublimate. It does not corrode or tarnish metals nor injure, either in texture or color, the finest fabrics. As a deodorant, it removes immediately the odor of feces, urine, and gangrenous material.

The vapor of formalin (formaldehyd) is intensely irritating, causing, when inhaled, redness of the eyes, lacrimation, and severe congestion of the mucous membrane of the respiratory tract. On cutaneous surfaces prolonged contact is apt to be followed by an obstinate eczematous rash. Formalin is not very poisonous, though large doses are capable of exciting burning in the throat and stomach, vomiting, purging, dyspnea, cyanosis, stupor, and collapse. The antidote is ammonia-water, which forms with formaldehyd the non-poisonous compound known as urotropin.

Formaldehyd is the best surface disinfectant we possess for rooms. The gas can be generated in sufficient quantity by vaporizing in a suitable lamp tablets of paraform, a crystalline form of formaldehyd, or by subjecting a fine stream of formalin by means of a special apparatus to a high degree of heat. A sufficient quantity of gas for fumigation cannot be secured by simply boiling commercial formalin, as the latter, when vaporized in an open vessel, is speedily crystallized into paraform. Formaldehyd has little penetrating power, hence it cannot supplant heat as a disinfectant for bedding, carpets, books, etc.

Formalin is most too irritating for use as an antiseptic in general surgery, but solutions of from 1 : 1000 to 1 : 500 are sometimes used for irrigating suppurating cavities. Instruments can be sterilized by placing them in a solution of formalin (1 : 2000) or by exposing them for ten minutes in an air-tight vessel to the vapor evolved from a 5-grain tablet of paraform.

A 5 per cent. solution of formalin (1 to 20 parts of water) is a reliable disinfectant for stools and sputa. A lotion (1 : 50 of water) is useful in excessive sweating of the feet.

Fowler's Solution.—(See *Arsenic.*)

Gallic Acid.—(See *Acids.*)

Gamboge (Cambogia).—**Action and Uses.**—Gamboge is a gum-resin obtained from a laurel-like tree (*Garcinia Hanburii*) growing in the East Indies. It is a powerful drastic cathartic, capable, in overdoses, of producing severe inflammation of the stomach and intestine. It is rarely given alone, but in combination with less active cathartics. It is one of the ingredients of the compound cathartic pill.

Dose, ½ to 5 grains (0.03–0.3 gm.).

Garlic (Allium).—**Action and Uses.**—Garlic is the bulb of a plant (*Allium sativum*) largely cultivated in temperate climates. It contains a volatile oil. It has been used as a stimulant expectorant in bronchitis.

Dose.—*Syrup of Garlic* (Syrupus Allii).—From 1 to 4 drams (4–15 c.c.).

Gaultheria (Wintergreen).—**Action and Uses.**—This is the leaves of an evergreen plant (*Gaultheria procumbens*) growing in the woods of North America. It contains a volatile oil, which is composed almost entirely of methyl salicylate (see Methyl Salicylate). Oil of gaultheria is used as a substitute for salicylic acid and the salicylates in the treatment of rheumatism. It is also an agreeable flavoring agent.

Dose.—*Oil of Gaultheria* (Oleum Gaultheriæ).—From 5 to 20 minims (0.3–1.2 c.c.) on sugar, in capsules, or in emulsion. It is also applied locally as a liniment.

Gelsemium (Yellow Jasmine).—**Action and Uses.**—Gelsemium is the roots of a beautiful climber (*Gelsemium sempervirens*) growing in the southern United States. It contains an alkaloid, *gelsemin*. Gelsemium is a depressant of the spinal cord and cranial nerves. Large doses depress also the heart and respiration. It is employed as an analgesic in trifacial neuralgia and as an antispasmodic in such affections as asthma, whooping-cough, and wryneck.

Dose.—*Fluidextract of Gelsemium* (Fluidextractum Gelsemii).—From 2 to 5 minims (0.12–0.3 c.c.).

Tincture of Gelsemium (Tinctura Gelsemii).—From 5 to 10 minims (0.3–0.6 c.c.).

Gelsemin (Gelsemina).—An alkaloid of gelsemium—$\frac{1}{64}$ to $\frac{1}{32}$ grain (0.001–0.002 gm.).

Poisoning.—*Symptoms.*—Dizziness, headache, disor-

dered vision, dilatation of the pupils, falling of the eyelids, dropping of the jaw, great muscular relaxation, slow, labored respiration, loss of voice, a cold, clammy skin, lowered temperature, and a feeble, thready pulse. The mind is usually clear until near the end.

Treatment.—This consists in evacuating the stomach, in administering tannic acid as an antidote, and heart-stimulants to combat relapse, and in maintaining the surface temperature by means of external heat. The patient must be kept absolutely quiet and in a horizontal position.

Gentian (Gentiana).—Action and Uses.—Gentian is the root of a perennial herb (*Gentiana lutea*) growing in the mountains of Europe. It is a simple bitter or stomachic, in moderate doses increasing the appetite and stimulating digestion.

Dose.—*Extract of Gentian* (Extractum Gentianæ).—From 1 to 5 grains (0.065–0.3 gm.).

Fluidextract of Gentian (Fluidextractum Gentianæ).—From ½ to 1 dram (2–4 c.c.).

Compound Infusion of Gentian (Infusum Gentianæ Compositum).—From 1 to 8 drams (4–30 c.c.). This infusion contains gentian root, fresh lemon-peel, and bitter orange-peel.

Compound Tincture of Gentian (Tinctura Gentianæ Composita).—From ½ to 2 drams (2–8 c.c.), given half an hour before meals.

Geranium (Crane's Bill).—Action and Uses.—Geranium is the root of a perennial herb (*Geranium maculatum*) growing in the woody places of North America. It is a mild and agreeable astringent. Its action is similar to that of tannic acid, of which it contains about 20 per cent. It is used internally in diarrhea after any irritant

that the bowel may contain has been removed by a laxative.

Dose.—*Fluidextract of Geranium* (Fluidextractum Geranii).—From ½ to 1 dram (2–4 c.c.).

Decoction of Geranium (Decoctum Geranii).—From 1 to 2 ounces (30–60 c.c.), made by boiling 1 ounce of the root in 3 half-pints of water down to 1 pint.

Gin.—(See *Alcohol.*)

Ginger (Zingiber).—**Action and Uses.**—Ginger is the root of a perennial herb (*Zingiber officinale*) growing in tropic countries. It is a carminative and gastric stimulant. It is used to relieve flatulency and to prevent the griping tendency of some purgative medicines. It is also much employed for flavoring purposes. Externally it is a rubefacient.

Dose, 10 to 30 grains (0.6–2.0 c.c.).

Fluidextract of Ginger (Fluidextractum Zingiberis).—From 10 to 30 minims (0.6–2.0 c.c.).

Tincture of Ginger (Tinctura Zingiberis).—From 20 minims to 1 dram (1.2–4.0 c.c.).

Oleoresin of Ginger (Oleoresina Zingiberis).—From ½ to 1 minim (0.03–0.06 c.c.).

Syrup of Ginger (Syrupus Zingiberis).—From ½ to 4 drams (1.8–15.0 c.c.).

Troches of Ginger (Trochisci Zingiberis).—One as required. Each troche contains about 3 minims of tincture of ginger. They are used to stimulate the salivary secretion.

Glauber's Salt.—(See *Sodium Sulphate.*)

Glonoin.—(See *Nitroglycerin.*)

Glycerin (Glycerinum).—**Action and Uses.**—Glycerin is a sweet, syrupy liquid produced by the action of superheated steam on fats or as a by-product in the

manufacture of soap by the action of alkalis on fats. Internally, glycerin is used as a laxative, and as a sweetening agent when sugar is forbidden, as in diabetes. Locally, it is employed in the form of lotions or ointments as an emollient in chapped hands, fissured nipples, etc., and as an agreeable vehicle for remedies intended for use in the mouth, nose, and throat. Undiluted glycerin often acts as an irritant when applied to sensitive skins. A paste made by mixing glycerin with porcelain clay and applied hot is sometimes used as a substitute for poultices. Suppositories and enemata of glycerin afford a ready method of unloading the bowel in simple constipation.

Dose, 1 to 2 drams (4 to 8 c.c.). An agreeable mouth-wash consists of equal parts of glycerin and water and a few drops of lemon-juice.

Glycerin Enema (Enema Glycerini).—From ½ to 2 ounces (15–60 c.c.) of glycerin mixed with the same amount of warm soapsuds.

Glycerin Suppositories (Suppositoria Glycerini).—One as required.

Glycerite of Carbolic Acid (Glyceritum Acidi Carbolici).—A syrupy liquid containing 20 per cent. of carbolic acid. Used externally.

Glycerite of Tannic Acid (Glyceritum Acidi Tannici).—A syrupy liquid containing 20 per cent. of tannic acid. It is used internally and externally for the same purposes as tannic acid. *Dose,* 10 to 16 minims (0.6–4.0 c.c.).

Glycerite of Starch (Glyceritum Amyli).—Used as a protective.

Glycerite of Boroglycerin (Glyceritum Boroglycerini).—A syrupy liquid containing 50 per cent. of boroglycerin,

a preparation made by heating together boric acid and glycerin. It is used externally.

Glycerite of Yolk of Egg (Glyceritum Vitelli).—A syrupy liquid containing 45 per cent. of fresh yolk of egg. It is used in making emulsions.

Glycyrrhiza (Licorice-root).—(See *Licorice.*)

Gold (Aurum).—**Action and Uses.**—The salts of gold are sometimes used as alteratives in the same class of cases in which arsenic has been found to be beneficial.

Preparations.—*Gold Bromid* (Auri Bromidum).—*Dose*, $\frac{1}{5}$ to $\frac{1}{2}$ grain (0.013–0.032 gm.).

Gold Chlorid (Auri Chloridum).—*Dose*, $\frac{1}{100}$ to $\frac{1}{20}$ grain (0.0006–0.0032 gm.).

Gold and Sodium Chlorid (Auri et Sodii Chloridum).—Contains equal parts of gold chlorid and sodium chlorid. *Dose*, $\frac{1}{20}$ to $\frac{1}{10}$ grain (0.0032–0.0064 gm.).

Gold and Potassium Bromid (Auri et Potassii Bromidum).—*Dose*, $\frac{1}{10}$ to $\frac{1}{3}$ grain (0.0064–0.02 gm.).

Gossypium.—(See *Cotton-root.*)

Granatum.—(See *Pomegranate.*)

Goulard's Extract.—(See *Lead.*)

Gray Powder (Mercury with Chalk; Hydrargyrum cum Creta).—(See *Mercury.*)

Grindelia.—**Action and Uses.**—Grindelia is the leaves and flowering tops of a perennial herb (*Grindelia robusta*) growing in North America, west of the Rocky Mountains. It is an antispasmodic, stimulant, and expectorant. It is often of service in bronchitis, especially when there is asthma. Externally, it is used as an anodyne lotion in the strength of 1 part of the fluid extract to 10 of water in ivy-poisoning, erysipelas, and other inflammatory affections of the skin.

Dose.—*Fluidextract of Grindelia* (Fluidextractum Grindeliæ).—From ½ to 1 dram (2–4 c.c.).

Guaiac (Guaiacum; Lignum Vitæ).—**Action and Uses.**—Guaiac is the resin of a large tree (*Guaiacum officinale*) growing in the West Indies. It is employed as an alterative in sore throat, gout, and chronic rheumatism.

Dose.—From 5 to 30 grains (0.3–2.0 gm.).

Tincture of Guaiac (Tinctura Guaiaci).—From ½ to 1 dram (2–4 c.c.).

Ammoniated Tincture of Guaiac (Tinctura Guaiaci Ammoniata).—This contains 20 per cent. of the resin in aromatic spirit of ammonia—½ to 1 dram (2–4 c.c.) in milk.

Troches of Guaiac (Trochisci Guaiaici Compositi).—One as required.

Guaiacol (Guaiacolum).—Guaiacol is the chief constituent of creasote. It is a colorless liquid, having an unpleasant aromatic odor and taste. With acids it forms crystalline salts. Its action closely resembles that of carbolic acid and creasote. Internally, it has been used as an expectorant in chronic bronchitis and phthisis, but the more elegant carbonates of creasote and guaiacol have largely supplanted it. When applied to the skin (10 to 20 drops) and evaporation is prevented, it acts as a powerful antipyretic. The usual method is to rub the amount of guaiacol ordered into the skin of the abdomen or chest with a camel's-hair brush and then cover the part with a piece of waxed paper to prevent evaporation. As the fall of temperature is accompanied by profuse sweating and severe prostration, this method of lowering temperature is rarely employed.

Dose, 5 to 20 minims (0.3–1.3 c.c.

Guaiacol Carbonate (Guaiacoli Carbonas; Duotol).—This is a white, insoluble powder, without odor or taste. It contains about 90 per cent. of pure guaiacol. It is used as an expectorant in bronchitis and as an intestinal antiseptic in diarrhea. *Dose,* 5 to 30 grains (0.3–2.0 gm.) in powders or capsules.

Thiocol (Potassium Guaiacol Sulphonate).—This salt of guaiacol differs from the carbonate in being soluble in water. *Dose,* 5 to 30 grains (0.3–2.0 gm.) in aromatic water.

Guaiacol Benzoate (Benzosol).—This is an odorless and tasteless crystalline powder, containing about 54 per cent. of guaiacol. It is less active than the carbonate of guaiacol, although it is used for the same purposes. *Dose,* 5 to 30 grains (0.3–2.0 gm.) in powders or capsules.

Guarana.—Action and Uses.—This is a dried paste consisting of the crushed seeds of a climbing shrub (*Paullinia cupana*) growing in Brazil. It owes its activity to caffein, of which it contains about 3.5 per cent. It is used chiefly to relieve nervous headache.

Dose, ½ to 1 dram (2–4 gm.) mixed with water.

Fluidextract of Guarana (Fluidextractum Guaranæ).—From 1 to 2 drams (4–8 c.c.).

Gum Arabic.—(See *Acacia*).

Hamamelis (Witch-hazel).—**Action and Uses.**—Hamamelis is official as the leaves and the bark of a woody shrub (*Hamamelis virginiana*) growing in North America. It contains a small amount of tannic acid. It is used both internally and externally as an astringent and a hemostatic. Externally, it is also much used in the form of a lotion in bruises, sprains, local inflammations, etc. The preparation usually employed is the dis-

tilled extract, made from young twigs macerated in water and alcohol.

Dose.—*Fluidextract of Hamamelis Leaves* (Fluidextractum Hamamelidis Foliorum).—From ½ to 1 dram (2–4 c.c.).

Hamamelis Water (Aqua Hamamelidis).—From 1 to 2 drams (4–8 c.c.).

Hellebore, American.—(See *Veratrum Viride.*)

Hematoxylon.—(See *Logwood.*)

Henbane.—(See *Hyoscyamus.*)

Heroin.—This is an alkaloid prepared artificially from morphin. It has feeble analgesic and hypnotic properties. It is especially employed in allaying severe cough in bronchitis and phthisis and as a sedative in asthma.

Dose, $\frac{1}{12}$ to $\frac{1}{8}$ of a grain (0.005–0.008 gm.).

Hoffmann's Anodyne (Compound Spirit of Ether; Spiritus Ætheris Compositus).—**Action and Uses.**—Hoffmann's anodyne is a mixture of ether, alcohol, and ethereal oil, the last being the product of the action of sulphuric acid on ether. It is a colorless, inflammable liquid, having an ethereal odor and taste. It is an excellent general stimulant and antispasmodic. It is especially useful in palpitation the result of flatulency, in hiccup, and in asthma.

Dose, ½ to 2 drams (2–8 c.c.).

Homatropin Hydrobromid (Homatropinæ Hydrobromidum).—**Action and Uses.**—Homatropin resembles in its action atropin, from which it is derived. It is largely used as a mydriatic, and while its action is as prompt, though probably not so energetic, as atropin, the dilatation of the pupil lasts only, as a rule, from two to three days, while that of atropin lasts from eight to ten days.

Dose, in solution, in the strength of 4 grains (0.26 gm.) to 1 ounce (30 c.c.) of distilled water.

Honey (Mel).—**Action and Uses.**—Honey is demulcent, nutritive, and slightly laxative. It is chiefly used as a vehicle.

Dose, 1 to 2 drams (4–8 c.c.).

Honey of Rose (Mel Rosæ).—It is slightly astringent, and is used as an application for the mouth and throat in combination with other agents. *Dose,* 1 to 2 drams (4–8 c.c.).

Clarified Honey (Mel Despumatum).—*Dose,* 1 to 2 drams (4–8 c.c.).

Oxymel, a domestic remedy for colds and sore throat, is a mixture containing 5 ounces each of vinegar and water and 40 ounces of honey.

Hops (Humulus).—**Action and Uses.**—Hops are the dried fruit of a perennial climber (*Humulus lupulus*), cultivated in most temperate countries. A glandular powder is separated from the hops by thrashing and is known as *lupulin.* Hops act as a bitter tonic and a feeble hypnotic. A hop-poultice, made by moistening with hot-water hops contained in a gauze bag, is used to relieve pain. Hop-pillows are sometimes employed to promote sleep in fevers; their action is not due to any principle contained in the hops, but to their softness and elasticity.

Dose.—*Tincture of Hops* (Tinctura Humuli).—From 2 to 4 drams (8–15 c.c.).

Lupulin (Lupulinum).—From 3 to 5 grains (0.2–0.3 gm.).

Fluidextract of Lupulin (Fluidextractum Lupulini).—From $\frac{1}{2}$ to 1 dram (2–4 c.c.).

Oleoresin of Lupulin (Oleoresina Lupulini).—From 5 to 10 minims (0.3–0.6 c.c.).

Horse-nettle (Solanum Carolinense).—The fluid extract of horse-nettle has been used with some success in epilepsy.

Dose, ½ to 1 dram (2–4 c.c.).

Huxham's Tincture.—(See *Cinchona.*)

Hydrargyrum.—(See *Mercury.*)

Hydrastis (Golden Seal).—**Action and Uses.**—Hydrastis is the root of a perennial herb (*Hydrastis canadensis*) growing in the woodlands of North America. It contains the alkaloids *hydrastin*, *berberin*, and *canadin*. Internally, it is a stomachic, hemostatic, and oxytocic. Locally, it is an astringent. It is chiefly of service in certain catarrhal inflammations and as a hemostatic in uterine hemorrhage.

Dose.—*Fluidextract of Hydrastis* (Fluidextractum Hydrastis).—From ½ to 1 dram (2–4 c.c.).

Tincture of Hydrastis (Tinctura Hydrastis).—From ½ to 2 drams (2–8 c.c.).

Glycerite of Hydrastis (Glyceritum Hydrastis).—From ½ to 2 drams (2–8 c.c.).

Hydrastin (Hydrastina).—From ¼ to ½ grain (0.016–0.03 gm.). As a wash, ½ to 2 grains (0.03–0.13 gm.) to 1 ounce (30 c.c.) of water.

Hydrastinin Hydrochlorid (Hydrastininæ Hydrochloridum).—This is an artificial alkaloid obtained by oxidizing hydrastin. It is used chiefly for uterine hemorrhage.

Dose, ¼ to 1 grain (0.016–0.06 gm.).

Hydrogen Peroxid (Hydrogen Dioxid; Aqua Hydrogenii Dioxidi).—**Action and Uses.**—The commercial preparation is a 3 per cent. aqueous solution of dioxid

of hydrogen gas. Its strength is impaired with age. It should be kept in a cool, dark place, and not too tightly stoppered.

On account of the readiness with which it parts with oxygen when brought in contact with organic matter, peroxid of hydrogen effervesces in the presence of pus, blood, and mucus. Owing to its oxidizing power it is also an energetic antiseptic, germicide, and deodorant. It is much used for cleansing septic wounds, abscess cavities, and inflamed mucous membranes, such as those of the nose and throat.

As it is an active bleaching agent, it must be used with caution about the face and head.

Peroxid of hydrogen readily decomposes when brought in contact with metals. If used as a spray, a glass atomizer must be employed. It is usually applied diluted with from 1 to 3 parts of water.

Hyoscyamus (Henbane).—**Action and Uses.**—Hyoscyamus is the leaves and flowers of an herb (*Hyoscyamus niger*) growing in waste places in most temperate countries. It contains two alkaloids, *hyoscin* and *hyoscyamin*. The action of hyoscyamus resembles that of belladonna and stramonium, but it is more sedative, owing to its alkaloid, hyoscin. Like atropin, hyoscin dilates the pupils and checks secretions, but, unlike atropin, it depresses the brain and respiration. It is chiefly used as a nerve-sedative and hypnotic. It is a powerful depressant, and its effect, especially on the respiration, must be carefully watched.

The action of hyoscyamin is almost exactly the same as that of atropin.

Hyoscyamus is used externally in the form of fomentations to relieve pain and to allay irritation.

The symptoms of poisoning are similar to those of belladonna, dilatation of the pupils and dryness of the throat being the first symptoms. Sometimes, after a large dose has been taken, the patient cannot see clearly to read. The nurse should bear in mind this effect of the drug, and assure the patient that the symptom will pass away in a little while.

Dose.—*Extract of Hyoscyamus* (Extractum Hyoscyami).—From ½ to 3 grains (0.03–0.2 gm.).

Fluidextract of Hyoscyamus (Fluidextractum Hyoscyami).—From 5 to 20 minims (0.3–1.2 c.c.).

Tincture of Hyoscyamus (Tinctura Hyoscyami).—From ½ to 1 dram (2–4 c.c.).

Hyoscin Hydrobromid (Hyoscinæ Hydrobromidum).—From $\frac{1}{200}$ to $\frac{1}{80}$ grain (0.00032–0.0008 gm.).

Hyoscyamin Hydrobromid (Hyoscyaminæ Hydrobromidum).—From $\frac{1}{150}$ to $\frac{1}{60}$ grain (0.0004–0.0013 gm.).

Ichthyol (Ammonium Sulpho-ichthyolate).—**Action and Uses.**—Ichthyol is a thick, brownish liquid with a bituminous odor and taste, obtained from a deposit of fossil fish found in the Tyrol mountains. It is rich in sulphur.

Locally, in the form of an ointment, it has been found very useful as a sedative, antiseptic, and alterative in various inflammatory conditions, such as facial erysipelas, articular rheumatism, frost-bite, sprains, and enlarged lymph-glands. From 1 to 2 drams (4–8 gm.) of ichthyol to the ounce (30 gm.) of lard or vaselin is the strength usually employed.

Internally, ichthyol has been used to some extent as an alterative in tuberculosis and chronic rheumatism. Dose, 2 to 10 grains (0.13–0.65 gm.) in capsules or pills.

Ichthalbin.—This is a compound of ichthyol and

albumin. It is odorless and nearly tasteless. It is sometimes used as a substitute for ichthyol. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Ichthoform.—This is a compound of ichthyol and formaldehyd. It has been recommended as a substitute for iodoform.

Ichthargan.—This is a compound of ichthyol and metallic silver. It has been recommended as an antiseptic (1 : 10,000 to 1 : 1000) in inflammatory affections of mucous membranes.

Inula (Elecampane).—**Action and Uses.**—Inula is the root of a perennial herb (*Inula helenium*) growing in central Europe and Asia. It contains a volatile oil, a bitter principle, and a starch-like substance known as *inulin*. It is chiefly used as a domestic remedy in bronchitis and amenorrhea.

Dose, 20 to 60 grains (1.3–4.0 gm.). It is usually given in a decoction, prepared by boiling ½ ounce of the root in a pint of water. The dose of the latter is 1 to 2 ounces (30–60 c.c.).

Iodids.—The most important metallic salts of iodin are potassium iodid, sodium iodid, ammonium iodid, strontium iodid, and lead iodid.

Potassium Iodid (Potassium Iodidum).—This salt occurs as colorless crystals or as a white powder having a salty, acrid taste. It is very soluble in water. When taken internally, it is rapidly absorbed and rapidly eliminated. Small doses have no very marked physiologic effect beyond increasing slightly the secretion of urine. Large doses cause burning in the stomach, vomiting, and diarrhea. Prolonged use of the iodids is followed by a group of symptoms to which the term *iodism* is applied. This condition is characterized by frontal headache,

sneezing, running at the nose, sore throat, and an acne rash on the skin.

Iodids are employed therapeutically in a number of diverse diseases, but the manner of their action is unknown. They are used as alteratives in syphilis, chronic rheumatism, gout, and asthma; as absorbents in various inflammatory diseases, and as eliminants in chronic metallic poisoning, especially from lead and mercury. *Dose*, 5 to 30 grains (0.3–2.0 gm.), after meals, well diluted, preferably in milk.

Sodium Iodid (Sodii Iodidum).—This salt closely resembles potassium iodid in its therapeutic properties, but it is somewhat better borne by the stomach. *Dose*, 5 to 30 grains (0.3–2.0 gm.), administered in the same manner as potassium iodid.

Ammonium Iodid (Ammonii Iodidum).—This salt has the same properties as potassium iodid, but is somewhat more irritant to the stomach. *Dose*, 5 to 30 grains (0.3–2.0 gm.).

Strontium Iodid (Strontii Iodidum).—This salt is not so powerful as potassium iodid, but less irritating and less prone to induce iodism. *Dose*, 5 to 30 grains (0.3–2.0 gm.).

Lead Iodid (Plumbi Iodidum).—Lead iodid is a heavy yellow powder, insoluble in water. It is rarely used internally. Externally, in the form of the ointment (unguentum plumbi iodidum), it is applied with gentle friction as an absorbent in inflammatory affections of lymph-glands.

Iodin (Iodum).—**Action and Uses.**—Iodin is a non-metallic element obtained from the ashes of seaweed. It is rarely used internally. Externally, iodin in the form of the tincture is a counterirritant and vesicant.

When applied to the skin, it produces a deep yellowish-brown stain, causes slight pain, and, subsequently, desquamation. From one to three coats are applied with a swab or camel's-hair brush, each coat being allowed to dry and the skin to desquamate before another is added. As a counterirritant it is applied in a great variety of inflammatory processes.

Acute Poisoning.—*Symptoms.*—Iodin is an irritant poison, producing severe burning pain in the throat, stomach, and abdomen, vomiting and purging, salivation, a strong metallic taste in the mouth, a feeble, rapid pulse, pale face, and suppression of urine. The vomited matter has the odor of iodin, and when starchy food has been taken, it has a blue color.

The *treatment* consists in giving starch or flour stirred up in water, and then evacuating the stomach. External heat and stimulants are indicated.

Preparations.—*Tincture of Iodin* (Tinctura Iodi).—Used locally as a counterirritant. Tincture of iodin should be kept in well-stoppered bottles. When exposed, it becomes stronger, owing to the evaporation of the alcohol. Excessive pain, induced by the too free use of the tincture, may be relieved by applications of oil or of starch paste.

Compound Solution of Iodin (Lugol's Solution; Liquor Iodi Compositus).—This is a solution of iodin in an aqueous solution of potassium iodid. Used externally.

Churchill's Tincture of Iodin.—This is made by dissolving iodin in a solution of potassium iodid in alcohol and water. It is stronger than the ordinary tincture.

Ointment of Iodin (Unguentum Iodi).—Used externally as an absorbent.

Iodipin.—This is an addition-product of iodin with oil

of sesame. It is used internally and hypodermically as a substitute for the iodids.

Iodoform (Iodoformum).—This is a lemon-yellow powder, having a peculiar penetrating odor and an unpleasant sweetish taste. It contains more than 90 per cent. of iodin. Upon mucous membranes and raw surfaces iodoform acts as an anesthetic and antiseptic. While it has little or no germicidal power in itself, it retards germ growth by liberating free iodin in the presence of body-juices. When applied too freely to raw surfaces, it may be absorbed and cause poisoning. Some persons are very susceptible to its toxic effects. It is extensively employed in the dressing of infected wounds, ulcers, and abscess cavities. Internally, it has been used to some extent as an alterative in phthisis.

Dose, 1 to 5 grains (0.065–0.32 gm.) in pill or in capsule.

Iodoform Ointment (Unguentum Iodoformi).—Used externally.

Iodoform Suppositories (Suppositoria Iodoformi).—Each suppository contains 3 grains (0.2 gm.) of iodoform.

Toxic Effects.—The symptoms of iodoform absorption are headache, loss of appetite, insomnia, rise of temperature, rapid, feeble pulse, and restlessness. These symptoms may pass away if the dressing is removed and discontinued. Grave cases are characterized by marked anxiety, a bright red eruption on the face and limbs, retention of urine, stupor, delirium, and collapse.

Oil of turpentine will at once remove the objectionable odor of iodoform from the hands, instruments, and vessels that have been in contact with the drug.

Iodol.—This is an odorless and tasteless compound resembling iodoform in action. It is obtained by acting

on a principle obtained from bone oil with iodin. It is much more costly than iodoform.

Iodothyrin.—This is the active constituent of the thyroid gland. It is a brown, insoluble powder, rich in iodin. The commercial preparation is a milk-sugar trituration. It is used in myxedema, goiter, obesity, and certain skin-diseases.

Dose, 5 to 10 grains (0.3–0.6 gm.).

Ipecac (Ipecacuanha).—Action and Uses.—Ipecac is the root of a perennial shrub (*Cephaëlis ipecacuanha*) growing in South America. It contains several alkaloids, the chief of which are *emetin* and *cephaëlin*. Locally, powdered ipecac is an active irritant. Taken internally in large doses it is a slow but safe emetic. On account of its gentle action, it is preferred for old, feeble, and very young patients. Large drafts of water taken as soon as nausea begins hasten the emetic action. In small doses it is very useful as a sedative expectorant in acute bronchitis. In large doses it has been extensively employed in the treatment of tropical dysentery. In minute doses (1 drop) the wine of ipecac is a reliable antiemetic. In the form of Dover's powder (powder of ipecac and opium) it is employed as a mild diaphoretic in colds, muscular rheumatism, and influenza.

Dose, ½ to 30 grains (0.032–2.0 gm.).

Fluidextract of Ipecac (Fluidextractum Ipecacuanhæ).—From 1 to 2 minims (0.06–0.12 c.c.) as an expectorant; 10 to 30 minims (0.6–1.8 c.c.) as an emetic.

Syrup of Ipecac (Syrupus Ipecacuanhæ).—From 10 minims to 1 dram (0.6–4.0 c.c.) as an expectorant; 2 to 4 drams (7.5–15.0 c.c.) as an emetic.

Tincture of Ipecac and Opium (Tinctura Ipecacuanhæ et Opii).—This preparation represents Dover's powder

in a liquid form. *Dose*, 5 to 10 minims (0.3–0.6 c.c.), 10 minims being equal to 1 grain of opium and 1 grain of ipecac.

Powder of Ipecac and Opium (Pulvis Ipecacuanhæ et Opii; Dover's Powder).—Used as a diaphoretic. *Dose*, 5 to 10 grains (0.32–0.65 gm.). Ten grains of the powder contain 1 grain of opium.

Troches (Trochisci Ipecacuanhæ).—Each troche contains $\frac{1}{4}$ grain (0.016 gm.) of ipecac.

Troches of Morphin and Ipecac (Trochisci Morphinæ et Ipecacuanhæ).—Expectorant and anodyne. *Dose*, one troche. Each troche contains about $\frac{1}{40}$ grain (0.0016 gm.) of morphin sulphate and $\frac{1}{12}$ grain (0.005 gm.) of ipecac.

Wine of Ipecac (Vinum Ipecacuanhæ).—*Dose*, 10 to 30 minims (0.6–1.8 c.c.); as an emetic, 1 dram (4 c.c.) every fifteen minutes until vomiting is induced.

Emetin.—This is a crystalline alkaloid of ipecac. *Dose*, $\frac{1}{12}$ to $\frac{1}{6}$ grain (0.006–0.012 gm.) as an emetic.

Iris (Blue Flag).—**Action and Uses.**—Iris is the root of a perennial herb (*Iris versicolor*) growing in swampy places in North America. In full doses it acts as a cathartic, producing copious bilious stools. Its effect is similar to that of podophyllum.

Dose, 5 to 10 grains (0.32–0.65 gm.).

Extract of Iris (Extractum Iridis).—From 2 to 4 grains (0.13–0.26 gm.).

Fluidextract of Iris (Fluidextractum Iridis).—From 5 to 10 minims (0.3–0.6 c.c.).

Iron (Ferrum).—**Action and Uses.**—Internally, iron is a general tonic, hemostatic, and astringent. It is one of the normal constituents of the body, especially of the blood, and may be considered a food as well as a medi-

cine. In small doses it increases the number of red corpuscles and their hemoglobin value. But a small amount of iron is absorbed, the remainder being eliminated by the feces, bile, and urine. It imparts to the feces a black color, through its conversion while in the bowel into tannates and sulphids. The chief indication for the internal use of iron is anemia. Most all liquid preparations of iron have a more or less astringent action and are injurious to the teeth, and for this reason they should be taken well diluted, through a glass tube, and the mouth carefully rinsed afterward. Iron stains nearly everything with which it comes in contact. Ammonia water (pure) will remove the stains from silver, and oxalic acid, from cotton and linen goods.

Iron sometimes causes frontal headache, irritation of the stomach, and constipation. Externally, iron is used as an astringent and a styptic.

Preparations of Iron.—*Reduced Iron* (Ferrum Reductum).—Used only as a tonic; it has but a slight astringent action. *Dose*, 1 to 5 grains (0.06–0.3 gm.) in pill, capsule, or lozenge.

Saccharated Iron Carbonate (Ferri Carbonas Saccharatus).—Used as a tonic. *Dose*, 5 to 10 grains (0.3–0.65 gm.).

Compound Iron Mixture (Mistura Ferri Composita; Griffith's Mixture).—This is carbonate of iron in suspension with potassium sulphate, myrrh, and sugar. *Dose*, ½ to 1 ounce (15–30 c.c.).

Mass of Iron Carbonate (Massa Ferri Carbonatis; Vallet's Mass).—Iron carbonate with sugar and honey. *Dose*, 3 to 5 grains (0.2–0.3 gm.).

Pills of Iron Carbonate (Pilulæ Ferri Carbonatis; Blaud's Pills).—They contain equal parts of iron sul-

phate and potassium carbonate, which, uniting, form iron carbonate. *Dose*, 1 to 3 pills.

Iron Chlorid (Ferri Chloridum; Ferric Chlorid).—Used externally as a hemostatic.

Solution of Iron Chlorid (Liquor Ferri Chloridi).—*Dose*, 3 to 10 minims (0.2–0.6 c.c.).

Tincture of Ferric Chlorid (Tinctura Ferri Chloridi).—This is one of the most commonly prescribed liquid preparations of iron. It is used as a tonic, as an astringent, as a diuretic, and as a special internal remedy in erysipelas. *Dose*, 5 to 30 minims (0.3–2.0 c.c.). It should be taken well diluted through a glass tube to prevent injury to the teeth.

Solution of Iron and Ammonium Acetate (Liquor Ferri et Ammonii Acetatis; Basham's Mixture).—This preparation is used as a tonic and as a diuretic. *Dose*, 1 to 4 drams (4–15 c.c.).

Iron Hydroxid (Ferri Hydroxidum).—Prepared by adding sodium carbonate or ammonia to any liquid preparation of iron. It is used exclusively as an antidote in arsenic poisoning. *Dose*, 4 drams (15 c.c.) every ten minutes until relief is afforded.

Iron Hydroxid with Magnesia (Ferri Hydroxidum cum Magnesioxid).—This preparation is made by adding magnesia in excess to a liquid preparation of iron. It is used exclusively as an antidote in arsenic poisoning. *Dose*, 4 drams (15 c.c.) every ten minutes until relief is afforded.

Iron Sulphate (Ferri Sulphas; Green Vitriol; Copperas).—This is an astringent preparation, particularly useful when anemia is associated with diarrhea. It is used as a disinfectant, but its germicidal powers are feeble. *Dose*, 1 to 3 grains (0.06–0.2 gm.).

Iron and Ammonium Sulphate (Ferri et Ammonii Sulphas; Ammonioferric Alum).—It is employed in saturated solution as a local hemostatic.

Solution of Iron Subsulphate (Liquor Ferri Subsulphatis; Monsel's Solution).—This is one of the most astringent preparations of iron. It is used both internally and externally as a hemostatic. *Dose*, 3 to 5 minims (0.2–0.3 c.c.).

Saccharated Iron Iodid (Ferri Iodidum Saccharatum).—Used as a tonic and alterative. *Dose*, 1 to 5 grains (0.06–0.3 gm.).

Syrup of Iron Iodid (Syrupus Ferri Iodidi).—Used as a tonic and alterative. *Dose*, 5 to 60 minims (0.3–4.0 c.c.), well diluted, through a glass tube.

Pills of Iron Iodid (Pilulæ Ferri Iodidi).—Each pill contains 1 grain (0.06 gm.) of iron iodid. *Dose*, 1 to 3 pills.

Iron Citrate (Ferri Citras).—*Dose*, 2 to 5 grains (0.13–0.3 gm.).

Iron and Ammonium Citrate (Ferri et Ammonii Citras).—*Dose*, 5 to 10 grains (0.3–0.6 gm.).

Iron and Quinin Citrate (Ferri et Quininæ Citras).—*Dose*, 5 to 10 grains (0.3–0.6 gm.).

Iron and Strychnin Citrate (Ferri et Strychninæ Citras).—*Dose*, 1 to 5 grains (0.06–0.3 gm.).

Iron and Ammonium Tartrate (Ferri et Ammonii Tartras).—*Dose*, 5 to 10 grains (0.3–0.6 gm.).

Iron and Potassium Tartrate (Ferri et Potassii Tartras).—*Dose*, 5 to 10 grains (0.3–0.6 gm.).

Soluble Iron Phosphate (Ferri Phosphas Solubilis).—*Dose*, 3 to 10 grains (0.2–0.6 gm.).

Soluble Iron Pyrophosphate (Ferri Pyrophosphas Solubilis).—*Dose*, 3 to 10 grains (0.2–0.6 gm.).

Solution of Iron Citrate (Liquor Ferri Citratis).—*Dose*, 5 to 15 minims (0.3–1.0 c.c.).

Wine of Iron Citrate (Vinum Ferri Citratis).—*Dose*, 1 to 3 drams (4–11 c.c.).

Bitter Wine of Iron (Vinum Ferri Amarum).—Prepared from iron and ammonium acetate. *Dose*, 1 to 3 drams (4–11 c.c.).

Syrup of Iron, Quinin, and Strychnin Phosphates (Syrupus Ferri, Quininæ, et Strychninæ Phosphatum).—*Dose*, 1 to 2 drams (4–8 c.c.).

Iron Albuminate (Ferrum Albuminatum).—*Dose*, 3 to 10 grains (0.2–0.6 gm.).

Iron Peptonate (Ferrum Peptonatum).—*Dose*, 3 to 10 grains (0.2–0.6 gm.). Albuminates and peptonates of iron are often better borne by the stomach than the inorganic salts, are less injurious to the teeth, and are, perhaps, more readily absorbed.

Iron Lactate (Ferri Lactas).—*Dose*, 1 to 5 grains (0.06–0.3 gm.).

Iron Oxalate (Ferri Oxalas).—*Dose*, 3 to 5 grains (0.2–0.3 gm.).

Iron Hypophosphite (Ferri Hypophosphis).—*Dose*, 5 to 10 grains (0.3–0.6 gm.).

Iron Valerate (Ferri Valeras).—*Dose*, 1 to 3 grains (0.06–0.2 gm.).

Solution of Iron Acetate (Liquor Ferri Acetatis).—*Dose*, 5 to 10 minims (0.3–0.6 c.c.).

Solution of Iron Nitrate (Liquor Ferri Nitratis).—Used chiefly as a local astringent.

Iron Salicylate (Ferri Salicylas).—*Dose*, 5 to 10 grains (0.3–0.6 gm.).

Dialyzed Iron (Ferrum Dialysatum).—This is a preparation of the oxychlorid of iron from which the acidu-

lous matter has been removed. It is a dark-red, tasteless liquid. It is used as an antidote to arsenic. *Dose*, 1 to 2 ounces (30–60 c.c.), frequently repeated.

Jaborandi.—(See *Pilocarpus.*)

Jalap (Jalapa).—Action and Uses.—Jalap is the tuberous root of a perennial herb (*Exogonium Purga*) growing in Mexico. It contains two glucosids, *jalapin* and *convolvulin.* Jalap is an active hydragogue cathartic, especially useful in removing dropsical accumulations from the body. In overdoses it causes gastro-enteritis.

Dose, 15 to 30 grains (1–2 gm.).

Compound Jalap Powder (Pulvis Jalapæ Compositus).—From 15 to 40 grains (1.0–2.6 gm.).

Resin of Jalap (Resina Jalapæ).—From 2 to 4 grains (0.13–0.26 gm.); for a child, $\frac{1}{6}$ to $\frac{1}{2}$ grain (0.01–0.032 gm.).

Jalap is also an important ingredient in the compound cathartic pill and vegetable cathartic pill.

Jambul.—This is the root and seeds of a large tree (*Eugenia jambolana*) growing in the East Indies. It is used as an adjuvant to other remedies in the treatment of diabetes mellitus.

Dose, of the powdered *seeds*, 5 to 20 grains (0.3–1.3 gm.).

Fluidextract of Jambul (Fluidextractum Jambul).—From 10 to 30 minims (0.6–2.0 c.c.).

Jamestown Weed.—(See *Stramonium.*)

Juniper Berries (Fructus Juniperi).—Action and Uses.—Juniper berries are the fruit of an evergreen shrub (*Juniperus communis*) growing in the woodlands of most temperate countries. They owe their activity to a volatile oil—*oil of juniper.* The action of the latter is

similar to that of turpentine. Juniper is used as a stimulant diuretic in congestion of the kidneys, chronic Bright's disease, and chronic catarrh of the bladder.

Dose.—*Oil of Juniper* (Oleum Juniperi).—From 5 to 15 minims (0.3–1.0 c.c.).

Spirit of Juniper (Spiritus Juniperi).—From 1 to 4 drams (4–15 c.c.).

Compound Spirit of Juniper (Spiritus Juniperi Compositus).—Equivalent to gin, 1 to 4 drams (4–15 c.c.).

Infusion of Juniper (Infusum Juniperi).—One ounce of berries to one pint of boiling water, and allowed to stand one hour before using—½ to 1 ounce (15–30 c.c.).

Kamala (Rottlera).—Action and Uses.—Kamala is a brownish-red powder, consisting of the minute glands and hairs of the capsules growing on a small tree (*Mallotus philippinensis*) indigenous in the Philippine Islands. It contains a resin known as *rottlerin*. It is used solely as a remedy for tape-worm.

Dose, 1 to 2 drams (4–8 gm.) in syrup or honey.

Kino.—Kino is the dried juice of *Pterocarpus Marsupium*, a tall tree of India. It owes its activity to tannic acid. It is used solely as an astringent in diarrhea.

Dose, 5 to 10 grains (0.32–0.65 gm.) in powder.

Infusion of Kino (Infusum Kino).—Made by adding 2 drams of the extract to ½ pint of boiling water, and straining when cool. *Dose*, 1 ounce.

Tincture of Kino (Tinctura Kino).—From 1 to 2 drams (4–8 c.c.).

Koumiss.—Koumiss is a nutritious and easily assimilable preparation of milk. It is prepared as follows: Take an ordinary beer-bottle with a patent stopper; put in it 1 pint of milk, the sixth part of a cake of Fleisch-

mann's yeast, or 1 tablespoonful of fresh lager-beer (brewer's) yeast, and ½ tablespoonful of white sugar reduced to syrup; shake well and allow to stand in a refrigerator for two or three days, when it is ready to use. It will keep indefinitely if the bottles are laid on their side. Much waste can be saved by preparing the bottles with ordinary corks wired in position and drawing off the koumiss with a champagne-tap. Many failures have resulted because the corks did not fit properly, the result being that the carbonic-acid gas escaped as formed and left a worthless preparation. If there is any curdle or thickening part resembling cheese, the mixture should not be used, as this indicates that fermentation has been prolonged beyond the proper time. It is a good plan gently to shake the bottles for about ten minutes each day to prevent the clotting of casein.

Koumiss is often retained when the stomach will bear no other food. It is very nutritive, each quart representing about 4 ounces of solid food and from 1 to 3 per cent. of alcohol.

Kousso.—(See *Cusso; Brayera.*)

Krameria (Rhatany).—Action and Uses.—Krameria is the root of a low shrub (*Krameria triandra*) growing in Peru and Bolivia. It owes its activities to tannic acid. It is employed as an astringent in diarrhea.

Dose.—*Extract of Krameria* (Extractum Krameriæ).—From 5 to 10 grains (0.32–0.65 gm.).

Fluidextract of Krameria (Fluidextractum Krameriæ).—From 10 to 30 minims (0.6–2.0 c.c.).

Syrup of Krameria (Syrupus Krameriæ).—From ½ to 2 drams (2–8 c.c.).

Tincture of Krameria (Tinctura Krameriæ).—From 1 to 2 drams (4–8 c.c.).

Troches of Krameria (Trochisci Krameriæ).—One as required.

Decoction of Krameria (Decoctum Krameriæ).—Made by adding 1 ounce of the powder to 1 pint of boiling water. *Dose*, 1 to 4 ounces (30–120 c.c.).

Labarraque's Solution.—(See *Chlorin.*)

Lactophenin.—This compound is closely allied to phenacetin. Like the latter, it is an antipyretic and analgesic.

Dose, 5 to 15 grains (0.3–1.0 gm.).

Lactose (Saccharum Lactis; Sugar of Milk).—**Action and Uses.**—Lactose is the sugar obtained from the whey of cows' milk. It is less sweet than cane-sugar. It is used to sweeten infant foods and to give bulk to powders. In large doses it is a diuretic.

Dose, ½ to 1 ounce (15–30 gm.).

Lactucarium (Wild Lettuce).—**Action and Uses.**—Lactucarium is the dried milk-juice of an herb (*Lactuca virosa*) cultivated in southern Europe. It is a feeble hypnotic and antispasmodic.

Dose, ½ to 1 dram (2–4 gm.).

Syrup of Lactucarium (Syrupus Lactucarii).—From 1 to 4 drams (4–15 c.c.).

Tincture of Lactucarium (Tinctura Lactucarii).—From ½ to 1 dram (2–4 c.c.).

Lamellæ.—These are small gelatin disks containing drugs to be inserted in the center of the lower eyelid. Those commonly used are:

Lamellæ Atropinæ.—Disks of atropin, each of which contains $\frac{1}{5000}$ grain (0.000013 gm.) of atropin sulphate.

Lamellæ Cocainæ.—Disks of cocain. Each disk contains $\frac{1}{100}$ grain (0.00064 gm.) of cocain hydrochlorate.

Lamellæ Physostigminæ.—Disks of physostigmin. Each disk contains $\frac{1}{1000}$ grain (0.000064 gm.) of physostigmin.

Lanolin (Adeps Lanæ Hydrosus).—**Action and Uses.**—Lanolin is a purified fat obtained from sheep's wool. It is used locally in skin-diseases, in the treatment of the eruptive fevers, during the stage of desquamation, and as a basis for ointments. It is rapidly absorbed and does not become rancid.

Laudanum.—(See *Opium.*)

Lavender (Lavandula).—**Action and Uses.**—Lavender is the flowers of a shrub (*Lavandula angustifolia*) growing in southern Europe. It contains a volatile oil. The preparations of lavender are used as carminatives and agreeable vehicles.

Dose.—*Oil of Lavender* (Oleum Lavandulæ).—From 1 to 5 minims (0.06–0.3 c.c.).

Spirit of Lavender (Spiritus Lavandulæ).—From 10 to 30 minims (0.6–2.0 c.c.).

Compound Tincture of Lavender (Tinctura Lavandulæ Composita).—From ½ to 1 dram (2–4 c.c.).

The compound tincture is a constituent of Fowler's solution (liquor potassii arsenitis).

Lead (Plumbum).—Metallic lead is not used in medicine; several of its salts, however, are used both internally and externally as sedative astringents. The drug is eliminated in the bile, urine, intestinal secretions, saliva, milk, and sweat. As its excretion is effected slowly, the continuous use of its preparations is liable to be followed by an accumulation of the metal in the tissues.

Acute Lead-poisoning.—*Symptoms.*—The soluble salts of lead in overdoses cause a burning sensation in the throat, stomach, and abdomen, a sweet, metallic taste

in the mouth, vomiting, purging, or obstinate constipation, excessive thirst, paralysis, coma, and collapse. The vomit is white, due to the presence of chlorid of lead, formed by the action of the gastric juice, and the stools are black, due to the presence of the lead sulphid.

Treatment consists in the use of emetics and the administration of the antidote, Glauber's or Epsom salts. The temperature should be maintained by external heat.

Chronic Lead-poisoning.—Chronic lead-poisoning is frequently seen in workmen who handle the salts of the metal. It also results from the constant use of hair-dyes and cosmetics containing lead, and from drinking soft water which has been conveyed through leaden pipes. The chief symptoms are obstinate constipation, colic, a blue line on the gums, "wrist-drop," anemia, convulsions, and coma. The antidotes are potassium iodid and Epsom or Glauber's salts.

Lead Acetate (Sugar of Lead; Plumbi Acetas).—Lead acetate is used as an astringent and hemostatic. *Dose*, 1 to 3 grains (0.06–0.2 gm.) in pills, usually with opium.

Lead Subacetate.—This salt is used only in solution. From it are made the following preparations:

Solution of Lead Subacetate (Liquor Plumbi Subacetatis; Goulard's Extract).—This solution, diluted with 3 or 4 parts of water, is sometimes employed as a sedative lotion in ivy-poisoning, acute eczema, and erysipelas.

Dilute Solution of Lead Subacetate (Liquor Plumbi Subacetatis Dilutus; Lead-water).—This solution is used in making the mixture known as lead-water and laudanum. The latter contains laudanum, 1 dram (4 c.c.); lead-water, 4 drams (5 c.c.); and water, 16 drams (60 c.c.). It is used in sprains and external inflammations.

Cerate of Lead Subacetate (Ceratum Plumbi Subacetatis; Goulard's Cerate).—This preparation is used externally as an astringent and protective in local inflammations.

Lead Carbonate (Plumbi Carbonas; White Lead).—This is an insoluble salt. It is sometimes employed externally in the form of an ointment or powder as a protective in burns, scalds, and other inflammations of the skin. Applied over too large a surface, it may cause poisoning by absorption.

Lead Iodid (Plumbi Iodidum).—This is a heavy, yellow, odorless powder, almost insoluble in water. It is used in the form of an ointment, chiefly as an absorbent in inflammations of glands.

Lead Nitrate (Plumbi Nitras).—This is the most irritant of the lead salts. It is occasionally employed as a caustic in the form of a powder.

Lead Plaster (Emplastrum Plumbi).—This is an oleate of lead prepared by boiling together lead oxid, olive oil, and water. It is employed as a protective for superficial ulcers. It also forms the basis of many other plasters.

Lemon (Limon).—**Action and Uses.**—Lemon is the ripe fruit of *Citrus limonum*, a tree growing in most subtropic countries. The juice contains *citric acid*, and the rind, a volatile oil.

Internally, lemon-juice is a refrigerant, and makes a refreshing drink in fevers. It is given in the form of lemonade, or is added to nutritive drinks, such as barley-water. It is also used for the cure and prevention of scurvy.

Locally, it is used as a gargle in sore throat, as a hemostatic in postpartum hemorrhage and epistaxis, and for the relief of sunburn. A solution commonly used as

an application to the face in sunburn consists of bismuth subnitrate, 1 dram (4 gm.), lemon-juice and glycerin, 1 ounce each (30 c.c.).

Dose.—*Oil of Lemon* (Oleum Limonis).—From 1 to 5 minims (0.06–0.3 c.c.).

Essence of Lemon (Spiritus Limonis).—From 30 to 60 minims (2–4 c.c.).

Lemon-juice (Succus Limonis).—From 1 to 4 ounces (30–118 c.c.).

Leptandra (Culver's Root).—Action and Uses.—Leptandra is the root of a perennial herb (*Leptandra virginica*) growing in North America. It contains a resin known as *leptandrin*. It is used as a cathartic and hepatic stimulant.

Dose, 5 to 30 grains (0.3–2.0 gm.).

Extract of Leptandra (Extractum Leptandræ).—From 1 to 5 grains (0.06–0.3 gm.).

Fluidextract of Leptandra (Fluidextractum Leptandræ).—From 10 to 30 minims (0.6–2.0 c.c.).

Levulose (Fruit-sugar).—This is a saccharine body found in most fruits and made artificially from cane-sugar. It is almost as sweet as cane-sugar, and is sometimes substituted for the latter in the dietetic treatment of diabetes.

Dose, 1 to 2 ounces (30–60 gm.) a day.

Licorice (Glycyrrhiza).—Action and Uses.—Licorice is the root of a perennial herb (*Glycyrrhiza glabra*) growing in most temperate regions. It owes its sweet taste to a glucosid, *glycyrrhizin*. It is a mild cathartic and demulcent. It is also used to mask the taste of bitter or disagreeable substances.

Dose.—*Extract of Licorice* (Extractum Glycyrrhizæ).—From 5 to 100 grains (0.3–6.5 gm.).

Pure Extract of Licorice (Extractum Glycyrrhizæ Purum).—From 5 to 100 grains (0.3–6.5 gm.).

Fluidextract of Licorice (Fluidextractum Glycyrrhizæ).—From 1 to 2 drams (4–8 c.c.).

Ammoniated Glycyrrhizin (Glycyrrhizinum Ammoniatum).—From 5 to 15 grains (0.3–1.0 gm.).

Compound Licorice Powder (Pulvis Glycyrrhizæ Compositus).—From 1 to 2 drams (4–8 c.c.). This preparation contains also senna and sulphur and is used as a mild laxative.

Brown Mixture (Compound Licorice Mixture; Mistura Glycyrrhizæ Composita).—From 1 to 4 drams (4–15 c.c.).

Troches of Licorice and Opium (Trochisci Glycyrrhizæ et Opii).—Each troche contains 2 grains (0.13 gm.) of extract of licorice and $\frac{1}{12}$ grain (0.005 gm.) of opium. *Dose*, one as required.

Lime.—(See *Calcium.*)

Liniments (Linimenta).—Liniments are liquid preparations intended for external use. With the exception of belladonna liniment and lime liniment, which have a sedative effect, they are of a stimulating character and to be applied with friction.

Ammonia Liniment (Linimentum Ammoniæ; Volatile Liniment).—Used as a rubefacient. The practice of saturating flannel with liniment of ammonia or of chloroform and binding it on the skin should be avoided, as it is liable to cause blistering or even sloughing.

Belladonna Liniment (Linimentum Belladonnæ).—Used as an anodyne in local inflammations.

Lime Liniment (Linimentum Calcis; Carron Oil).—This consists of equal parts of lime-water and linseed oil. It is used on burns and scalds.

Camphor Liniment (Linimentum Camphoræ).—Used as a rubefacient in sprains and bruises.

Chloroform Liniment (Linimentum Chloroformi).—Used as a rubefacient.

Soap Liniment (Linimentum Saponis).—Used as a mild rubefacient and as a basis for other liniments.

Soft-soap Liniment (Linimentum Saponis Mollis; Tincture of Green Soap).—Used as a mild rubefacient and also to remove crusts and scales in chronic inflammatory skin-diseases.

Compound Mustard Liniment (Linimentum Sinapis Compositum).—Used as a rubefacient.

Turpentine Liniment (Linimentum Terebinthinæ).—Used as a rubefacient.

Turpentine and Acetic Acid Liniment (Linimentum Terebinthinæ Aceticum).—This is a powerful rubefacient.

Linseed.—(See *Flax-seed.*)

Lithium.—The action of the lithium salts is very similar to that of potassium. They lessen the acidity of the urine and aid in the elimination of uric acid by the kidneys. They are also diuretic. They are chiefly used in gout and the uric-acid diathesis.

Preparations.—*Lithium Carbonate* (Lithii Carbonas). —*Dose*, 5 to 20 grains (0.3–1.3 gm.).

Lithium Citrate (Lithii Citras).—*Dose*, 5 to 20 grains (0.3–1.3 gm.).

Effervescent Lithium Citrate (Lithii Citras Effervescens).—*Dose*, 1 to 2 drams (4–8 gm.).

Lithium Salicylate (Lithii Salicylas).—*Dose*, 5 to 20 grains (0.3–1.3 gm.).

Lithium Benzoate (Lithii Benzoas).—*Dose*, 5 to 20 grains (0.3–1.3 gm.).

Lithium Bromid (Lithii Bromidum).—This is the thera-

peutic equivalent of sodium bromid. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Lobelia (Indian Tobacco).—**Action and Uses.**—Lobelia is the leaves and tops of an herb (*Lobelia inflata*) growing in North America. It contains a liquid alkaloid known as *lobelin*. Lobelia is an antispasmodic, expectorant, emetic, and motor depressant. It is chiefly used as an antispasmodic in asthma.

Poisoning.—The *symptoms* are nausea, vomiting, purging, profuse sweating, a rapid, feeble pulse, pale skin, livid face, muscular relaxation, paralysis, stupor, coma, and collapse.

Treatment.—Evacuation of stomach, external heat, heart-stimulants, and demulcent drinks.

Fluidextract of Lobelia (Fluidextractum Lobeliæ).—From 1 to 5 minims (0.06–0.3 c.c.); as an emetic, 16 to 60 minims (1–4 c.c.). Its action as an emetic is so depressing that it is now rarely used.

Tincture of Lobelia (Tinctura Lobeliæ).—From 5 to 20 minims (0.3–1.2 c.c.); as an emetic, 1 to 2 drams (4–8 c.c.).

Infusion of Lobelia (Infusum Lobeliæ).—One ounce to 1 pint of water. *Dose*, 1 to 6 drams (4–22 c.c.). It is sometimes used externally as a lotion in the treatment of ivy-poisoning.

Lobelin Sulphate (Lobelinæ Sulphas).—From $\frac{1}{6}$ to 1 grain (0.01–0.06 gm.).

Logwood (Hematoxylon).—**Action and Uses.**—Logwood is the wood of a small tree (*Hæmatoxylon campechianum*) growing in Central America. It contains tannic acid and a coloring principle, *hematoxylin*. It is used chiefly as a mild astringent in the diarrhea of children. It imparts to the stools a blood-red color.

Dose.—*Extract of Hematoxylon* (Extractum Hæmatoxyli).—From 5 to 30 grains (0.3–2.0 gm.).

Fluid Extract of Hematoxylon (Extractum Hæmatoxyli Fluidum).—From 1 to 4 drams (2–15 c.c.).

Losophan.—Action and Uses.—Losophan is an iodin-containing antiseptic, appearing as colorless, odorless crystals, soluble in diluted alcohol but insoluble in water. It is sometimes employed in the form of an ointment or alcoholic solution (1 to 10 per cent.) in the treatment of parasitic skin-diseases.

Lugol's Solution.—(See *Iodin.*)

Lupulin.—(See *Hops.*)

Lycopodium.—Lycopodium is a fine yellow powder composed of the spores of certain species of moss. It is used chiefly as a protective and absorbent in chapping of the skin.

Lysol.—This is a brown, oily liquid, having the odor of creasote, obtained from tar-oils, and containing about 50 per cent. of cresols.

Lysol is used in surgical and gynecologic practice as a disinfectant and antiseptic. When added to water, it forms a clear, soapy liquid, which may be used for the disinfection of the hands of the surgeon and the patient's skin without the addition of soap. On account of its saponaceous character it cannot be used for instruments, as it renders them slippery. It is used in solutions of the strength of from 1 to 5 per cent. To make a 1 per cent. solution, 10 drams of lysol are added to 1 gallon of water. While lysol is a comparatively safe and unirritating antiseptic, it is not altogether harmless, poisoning from its absorption not being very rare.

Magendie's Solution.—(See *Opium.*)

Magnesium.—The metal magnesium is not employed

in medicine; its salts, however, are much used as cathartics.

Magnesium Oxid.—Magnesium oxid is official in two forms: *Magnesia* (light or calcined magnesia) and *magnesia ponderosa* (heavy magnesia). Both forms occur as white, insoluble powders, the only difference being in their weight.

Magnesia is used internally as a mild laxative, as an antacid, and as an antidote in arsenical poisoning. It is also employed externally as a dusting-powder in chafing. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Magnesium Carbonate (Magnesii Carbonas).—Magnesium carbonate is a white, odorless, insoluble powder, having a slightly earthy taste. It is used for the same purposes as magnesium oxid. *Dose*, 10 to 60 grains (0.6–4.0 gm.).

Magnesium Sulphate (Magnesii Sulphas; Epsom Salt).—This is a soluble salt having an unpleasant, bitter, saline taste. It is an active cathartic, producing copious watery stools without much intestinal irritation. It is an excellent cathartic for unloading the bowels of irritant material in acute inflammatory diseases of the intestines. By depleting the intestinal vessels it is of service in promoting the absorption of dropsical accumulations. It is also valuable as an antidote in acute poisoning by acetate of lead and carbolic acid. *Dose*, 1 to 8 drams (4–30 gm.).

Effervescent Magnesium Sulphate (Magnesii Sulphas Effervescens).—From 2 to 8 drams (8–30 gm.).

As an *enema:* magnesium sulphate, 2 ounces (60 gm.); glycerin, 1 ounce (30 c.c.); and warm water, 4 ounces (120 c.c.).

Solution of Magnesium Citrate (Liquor Magnesii Citratis).—This is an effervescing solution of magnesium citrate containing a small quantity of free citric acid and

sugar. In small doses it is an agreeable laxative; in large doses, a purgative. *Dose*, 6 to 12 ounces (180–360 c.c.).

Effervescent Magnesium Citrate (Magnesii Citras Effervescens).—This preparation is a white, granular salt which effervesces on the addition of water. It is intended as a substitute for the solution of magnesium citratis, but it is neither so pleasant nor so efficacious as the latter. *Dose*, 1 to 4 drams (4–15 gm.) dissolved in cold water and swallowed while effervescing.

Male Fern.—(See *Aspidium.*)

Malt (Maltum).—**Action and Uses.**—Malt is barley-seed brought to the early stage of germination by artificial means and then dried. It contains diastase, dextrin, starch, and sugar. Watery preparations of malt are known as malt extracts. They are largely employed in cases of imperfect nutrition with weak digestion.

Dose.—*Extract of Malt* (Extractum Malti).—From 2 to 4 drams (8–15 c.c.).

Manganese (Manganum).—The chief medicinal preparations of manganese are manganese oxid and potassium permanganate. As manganese is a constituent of the red blood-cells and other tissues, it has been recommended as a tonic in anemia. It is most useful as an emmenagogue in amenorrhea dependent upon anemia. Potassium permanganate is used not only as emmenagogue, but also as antiseptic, and as an antidote in opium- and phosphorus-poisoning.

Manganese Dioxid (Mangani Oxidum Nigrum; Black Oxid of Manganese).—Used as an emmenagogue. *Dose*, 1 to 5 grains (0.06–0.3 gm.) in pill form.

Potassium Permanganate.—(See *Potassium.*)

Manna.—**Action and Uses.**—Manna is a sugary exudation from a small tree (*Fraxinus Ornus*) growing in

Sicily. It contains a sweet crystalline principle known as *mannite.* Manna is a mild laxative. It is usually given in combination with other cathartics. It is one of the ingredients of the compound infusion of senna.

Dose, 1 to 8 drams (4–30 gm.).

Matico.—Action and Uses.—Matico is the leaves of a shrub (*Piper angustifolium*) growing in Mexico and South America. It contains a volatile oil, a resin, and tannic acid. Matico is a stimulant diuretic resembling cubeb and copaiba in its action. The leaves, on account of their hairy surfaces, favor coagulation and arrest bleeding when applied to small wounds. The drug is rarely used at the present time.

Dose.—*Fluidextract of Matico* (Fluidextractum Matico).—From ½ to 1 dram (2–4 c.c.).

Tincture of Matico (Tinctura Matico).—From ½ to 2 drams (2–8 c.c.).

Mel.—(See *Honey.*)

Menthol (Peppermint Camphor).—Action and Uses.—Menthol is a camphor-like substance obtained from the essential oil of peppermint. It is chiefly employed locally as a sedative and anesthetic. Lotions containing from 5 to 10 grains (0.3–0.6 gm.) to the ounce (30 c.c.) of alcohol are frequently employed in frontal headache and neuralgia. One part of menthol to 10 parts of olive oil makes a soothing application for burns. Internally, menthol is sometimes used as a carminative in neuralgia of the stomach and flatulent dyspepsia.

Dose, ½ to 2 grains (0.03–0.13 gm.) in pills, capsules, or emulsion.

Mercury (Hydrargyrum; Quicksilver).—Action and Uses.—Mercury is a silvery-white liquid metal without odor or taste. The insoluble preparations of mercury

(calomel, blue-mass, mercury with chalk) act as cathartics, producing large loose stools without much irritation. They also act as diuretics, probably by stimulating the cells of the kidney. Whether they possess the power or not of stimulating the liver-cells to secrete more bile is still an open question. Mercurials, especially when locally applied, aid materially in the absorption of inflammatory exudations. The soluble preparations of mercury are among the most powerful germicides known. Finally, mercury exerts a specific influence in syphilis.

Poisoning.—When small doses of unirritating preparations of mercury, such as calomel or blue-mass, are given continuously, they occasion a group of symptoms known as *ptyalism:* Increased flow of saliva, fetor of the breath, soreness of the teeth when the jaws are brought together forcibly, and tenderness and redness of the gums. If the drug is not withdrawn, the gums become swollen and ulcerated, the teeth loosen and fall out, and, finally, the bones themselves become necrotic. Large doses of a soluble irritant salt of mercury, such as the bichlorid, give rise to burning pain in the throat and abdomen, vomiting and purging of mucous and bloody matter, suppression of urine, and collapse.

The *treatment of ptyalism* consists in withdrawing the mercury and washing the mouth frequently with a saturated solution of potassium chlorate or a solution of peroxid of hydrogen (1 : 3). Atropin is sometimes given to check the excessive secretion of saliva, and potassium iodid to eliminate the metal from the tissues.

Treatment of Acute Poisoning.—White of egg beaten up with water or flour and milk should be administered at once, after which the stomach should be thoroughly

washed out with the stomach-pump. Demulcent drinks, external heat, and heart-stimulants are often indicated.

Administration.—The preparations of mercury may be given by the mouth, by inunction, by subcutaneous injection, or by fumigation. Inunction is used when the stomach is irritable. It is a very effective method of administration, although uncleanly and troublesome. About a dram (4 gm.) of mercurial ointment may be rubbed into the groins, axillæ, or inner surface of the thighs and arms once a day. In order to avoid irritation of the skin, a different region should be selected each day. The subcutaneous method of administration is chosen when it is desirable to bring the system rapidly under the influence of the drug. The injections are painful. Salts usually selected for hypodermic use are the bichlorid, benzoate, and salicylate.

Fumigation is sometimes practised instead of inunction when the stomach is intolerant. About 20 grains (1.3 gm.) of calomel are vaporized from a tin plate suspended over a spirit-lamp. The latter is placed under a cane-seated chair, upon which is seated the patient disrobed and surrounded by a blanket fastened at the neck. In about twenty minutes the calomel is deposited on the skin as a fine dust. Fumigation is best practised at night, the volatilized mercury being allowed to remain on the skin until morning.

Blue-mass (Massa Hydrargyri; Blue Pill).—This is a triturate of metallic mercury with honey of rose, glycerin, and licorice. It is much used as a cathartic in biliousness and also as a diuretic. Its action is very similar to that of calomel. *Dose*, ½ to 10 grains (0.03–0.6 gm.) in pill.

Mercury with Chalk (Hydrargyrum cum Creta).—

This is a grayish powder consisting of metallic mercury intimately mixed with chalk, honey, and water. It is used for the same purposes as blue-mass. *Dose*, ½ to 10 grains (0.03–0.6 gm.).

Mercurial Ointment (Unguentum Hydrargyri).—This preparation contains about 50 per cent. of metallic mercury. It is employed as an absorbent in inflammatory swellings, as a parasiticide in certain skin-diseases, and by inunction as an antisyphilitic remedy.

Diluted Mercurial Ointment or Blue Ointment (Unguentum Hydrargyri Dilutum).—This preparation contains about 33 per cent. of metallic mercury. It is employed for the same purpose as mercurial ointment.

Corrosive Sublimate (Mercuric Chlorid; Bichlorid of Mercury; Hydrargyri Chloridum Corrosivum).—This salt appears in the form of colorless, soluble crystals having an acrid metallic taste. Notwithstanding its irritant and toxic properties and its destructive effect upon metallic instruments, corrosive sublimate is the most popular germicide for general surgical work. For the skin a solution of from 1 : 1000 to 1 : 500 is usually employed; for wounds, from 1 : 10,000 to 1 : 2000; for the bladder and vagina, 1 : 20,000 to 1 : 5000. Tartaric or citric acid is generally added to bichlorid solutions to prevent the mercuric salt from uniting with the albuminous matter of the tissues to form an inert albuminate of mercury.

Compressed tablets, each containing 7½ grains (0.48 gm.) of corrosive sublimate with tartaric acid, are in common use. One of these added to a pint of water makes a solution of 1 : 1000.

Corrosive sublimate is not a good disinfectant for stools or sputum, since it hardens the albuminous material on the exterior and thus fails to penetrate into the interior of the mass. Solutions of from 1 : 5000 to

1 : 1000 are frequently employed for disinfecting the floors, bare walls, and woodwork of infected rooms.

Internally, corrosive sublimate is used as an antisyphilitic and alterative. *Dose*, $\frac{1}{50}$ to $\frac{1}{12}$ of a grain (0.0013–0.005 gm.).

Calomel (Mild Mercurous Chlorid; Hydrargyri Chloridum Mite).—Calomel appears as a white, odorless, tasteless, and insoluble powder. Internally it is used as a cathartic, gastric sedative, diuretic, and antisyphilitic. Externally, as a stimulant, antiseptic, and desiccant. *Dose*, $\frac{1}{10}$ to 10 grains (0.0065–0.65 gm.). It may be given dry on the tongue or in tablet or pill.

Black Wash (Lotio Nigra).—This is made by adding calomel (1 dram) to lime-water (1 pint). It is used as a stimulating application in syphilitic ulcers and certain inflammatory skin-diseases.

Yellow Wash (Lotio Flava).—This is made by adding corrosive sublimate (30 grains) to lime-water (1 pint). It is used for the same purposes as black wash, but is more stimulating.

Biniodid of Mercury (Red Iodid of Mercury; Hydrargyri Iodidum Rubrum).—This is a bright-red powder, without odor or taste, and almost insoluble in water. Internally it is much used as an alterative, especially in syphilis. It is one of the components of Donovan's solution (liquor arseni et hydrargyri iodidi). Externally it is sometimes used as an antiseptic in place of corrosive sublimate. *Dose*, $\frac{1}{50}$ to $\frac{1}{12}$ of a grain (0.0012–0.005 gm.).

Protiodid of Mercury (Yellow or Green Iodid of Mercury; Hydrargyri Iodidum Flavum).—This is a yellow, insoluble powder, free from odor and taste. It is far less irritating than the biniodid. It is one of the best preparations for internal use in syphilis. *Dose*, $\frac{1}{10}$ to $\frac{1}{2}$ of a grain (0.006–0.03 gm.).

Oxid of Mercury.—Mercuric oxid occurs in two forms: *yellow oxid* (hydrargyri oxidum flavum) and *red oxid* (hydrargyri oxidum rubrum). These are heavy, odorless, insoluble powders. They are employed externally, usually in the form of ointments, for their stimulant and alterative effects.

Nitrate of Mercury (Mercuric Nitrate; Hydrargyri Nitras).—This is employed in the form of a solution (liquor hydrargyri nitratis) and ointment (unguentum hydrargyri nitratis; citrine ointment). The solution is one of the most powerful caustics known. Citrine ointment is used as a stimulant and absorbent application in chronic inflammatory swellings.

Ammoniated Mercury (White Precipitate; Hydrargyrum Ammoniatum).—This is a white, tasteless and odorless powder, made by acting on corrosive sublimate with ammonia. It is used externally in the form of an ointment as a stimulant and parasiticide in certain skin diseases.

Yellow Sulphate of Mercury (Turpeth Mineral; Hydrargyri Subsulphas Flavus).—This is a lemon-yellow, odorless and tasteless powder. It was formerly much used as an emetic, but it has been largely replaced by less poisonous drugs. *Dose*, 2 to 3 grains (0.1–0.2 gm.) repeated once, if necessary, in fifteen minutes.

Cyanid of Mercury (Mercuric Cyanid; Hydrargyri Cyanidum).—This appears in colorless, soluble crystals, having a bitter, metallic taste. Its action resembles that of the bichlorid. It has been used hypodermically in syphilis and externally as an antiseptic in general surgical work. *Dose*, $\frac{1}{40}$ to $\frac{1}{10}$ of a grain (0.0016–0.006 gm.).

Salicylate of Mercury (Mercuric Salicylate; Hydrargyri Salicylas).—This is a white powder, free from odor and taste. It is very soluble in water containing

common salt. It has been especially used in the hypodermic treatment of syphilis. *Dose*, $\frac{1}{60}$ to $\frac{1}{8}$ of a grain (0.001–0.008 gm.).

Benzoate of Mercury (Mercuric Benzoate; Hydrargyri Benzoas).—This is a white, crystalline powder, free from odor and taste. It is readily soluble in water containing common salt. It is a reliable remedy for administering hypodermically in syphilis. *Dose*, $\frac{1}{60}$ to $\frac{1}{8}$ of a grain (0.001–0.008 gm.).

Mercurol.—This is a compound of mercury and yeast nuclein. It is a brownish-white powder, soluble in water. It is used as a local antiseptic in solutions of from 1 to 2 per cent.

Methyl-blue (Pyoktanin).—**Action and Uses.**—This anilin dye has been used externally as an antiseptic, chiefly in the treatment of infectious diseases of the eye. The strength commonly employed is 1 : 1000. It has also been employed locally to some extent as an analgesic and antiseptic in inoperable cancer.

Methyl Chlorid.—**Action and Uses.**—This appears as a colorless liquid having the odor of ether and chloroform. It is used locally as an anesthetic in the form of a spray. It is usually supplied in a small glass flask one end of which has been drawn out to a fine point. The point being broken off, the heat of the hand is sufficient to expel the contents as a fine spray. As it strikes the skin it absorbs so much heat in evaporating that it freezes the part. The part to be frozen should first be washed thoroughly with soap and water, in order to remove all fat; the glass tube should be held about ten inches from the skin, and the spraying continued for from two to three minutes.

Methyl Salicylate.—This is an artificial product

resembling very closely in its physical and therapeutic properties the natural oil of wintergreen. It is used both internally and externally as a remedy in rheumatism.

Dose, 10 to 20 minims (0.6–1.2 c.c.).

Methylene-blue.—Action and Uses.—This is an anilin derivative appearing in dark-blue crystals or as a bronze-like powder. It is distinctly serviceable in malaria, though inferior to quinin. It is recommended as an antiseptic in inflammatory diseases of the genito-urinary tract. It has also been used to some extent as an analgesic and hypnotic. It imparts an intensely blue or greenish-blue color to the urine.

Dose, 1 to 4 grains (0.065–0.26 gm.), usually in capsules, with some aromatic, like powdered nutmeg.

Monsel's Solution.—(See *Iron.*)

Morphin.—(See *Opium.*)

Musk (Moschus).—Action and Uses.—Musk is a dried secretion from a species of deer found in Central Asia. It is used as a general stimulant in low fevers and as an antispasmodic in hiccup and spasms of childhood.

Dose, 5 to 15 grains (0.3–1.0 gm.), preferably by the rectum, in suppository or suspended in mucilage of acacia.

Tincture of Musk (Tinctura Moschi).—From 1 to 2 drams (4–8 c.c.).

Mustard (Sinapis).—Action and Uses.—Mustard occurs in two forms: *white mustard* (Sinapis alba) and *black mustard* (Brassica nigra). Mustard-flour is commonly used externally as a stimulant and counterirritant. Internally it is used as an emetic.

Dose, as an emetic, 1 to 4 drams (4–15 gm.) in lukewarm water.

Mustard Paper (Charta Sinapis).—This is used exter-

nally as a counterirritant. It should be dipped in warm water before applying. The home-made mustard-plaster is preferred by many physicians because its strength can be more easily regulated.

Mustard-plaster.—A mustard-plaster may be made of pure mustard, or of mustard and flour in various proportions, mixed into a paste with warm water, and spread between two layers of muslin or soft linen rag. When mixed with flour, the action of the mustard is slower and it is not so liable to blister. The plaster is covered and left on for from ten to twenty minutes. When it is removed, the part is smeared with a little vaselin and covered with a soft cloth. While the plaster remains on the patient, a corner should be raised from time to time to see that it is not blistering; especially is this necessary with unconscious and paralyzed patients. For children 4 parts of flour are mixed with 1 part of mustard; when the skin is red, the plaster is removed and a flax-seed-meal poultice applied. The action is slower, but blistering is prevented. The white of an egg and mustard also make a non-blistering plaster.

When a mild counterirritant action is desired, the mustard is used in the form of a fomentation or poultice.

Mustard fomentation consists of flannel wrung out of very hot water (not boiling), to the pint of which has been added one tablespoonful of mustard. It is preferable to make a paste of the mustard before adding it to the hot water, so as to prevent the formation of lumps. Mustard should not be added to boiling water, as the action of the volatile oil which the mustard contains, and to which it owes its value, will be thereby destroyed.

Mustard Poultice.—A mustard poultice is made by adding to very hot water 2 parts of mustard (all the

lumps being first thoroughly dissolved) to 4 parts of flax-seed-meal. The poultice is spread and applied in the usual way. If the mustard be sprinkled over the flax-seed poultice, there is danger of burning the patient in patches.

Compound Mustard Liniment (Linimentum Sinapis Compositum).—This is also used as a counterirritant.

Volatile Oil of Mustard (Oleum Sinapis Volatile).—This is sometimes used externally as a rubefacient.

Myrrh (Myrrha).—Action and Uses.—Myrrh is a gum-resin obtained from a small tree (*Commiphora myrrha*) growing in eastern Africa. It is employed as an emmenagogue and as a stimulant to mucous membranes. The tincture, diluted with water or with a weak solution of potassium chlorate or borax, is much used locally in various inflammatory diseases of the mouth.

Dose.—*Tincture of Myrrh* (Tinctura Myrrhæ).—From 5 to 30 minims (0.3–2.0 c.c.).

Tincture of Aloes and Myrrh (Tinctura Aloes et Myrrhæ).—From ½ to 2 drams (2–8 c.c.).

Pills of Aloes and Myrrh (Pilulæ Aloes et Myrrhæ).—From 1 to 3 pills.

Naphthalen (Naphthalenum; Coal-tar Camphor).—This coal-tar derivative occurs in white scales having a strong odor of coal-tar and a burning taste. It was at one time used internally as an intestinal antiseptic in diarrhea, but it has been displaced by beta-naphthol. Externally, it is sometimes used in the form of an ointment as a stimulant and antiseptic remedy in certain skin-diseases.

Dose, 2 to 10 grains (0.13–0.6 gm.).

Beta-naphthol (Naphthol).—This compound is usually prepared artificially from naphthalen. It is used internally as an antiseptic in diarrhea, and externally as a parasiticide

in ringworm and scabies. *Dose*, 2 to 10 grains (0.13–0.6 gm.). Externally it is usually employed in the form of an ointment in the strength of from ½ to 1 dram (2–4 gm.) to the ounce (30 gm.) of lard.

Benzonaphthol.—This compound is prepared artificially from beta-naphthol, over which it has an advantage in being tasteless. It is used as an intestinal antiseptic in diarrhea. *Dose*, 5 to 10 grains (0.3–0.6 gm.).

Betanaphthol Bismuth (Orphol).—This is a combination of bismuth oxid and beta-naphthol. It is a brown powder, free from odor and taste. It is used as an internal antiseptic in flatulent dyspepsia and diarrhea. *Dose*, 5 to 30 grains (0.3–2.0 gm.).

Neutral Mixture (Liquor Potassii Citratis; Solution of Potassium Citrate).—The solution of potassium citrate is used in mild febrile conditions to promote the secretion of the skin and kidneys.

Dose, ½ to 1 ounce (15–30 c.c.).

Nitrate of Silver.—(See *Silver.*)

Nitrite of Amyl.—(See *Amyl Nitrite.*)

Nitroglycerin (Nitroglycerinum; Glycerylis Nitras; Glonoin; Trinitrin).—**Action and Uses.**—Nitroglycerin is prepared by acting on pure glycerin with nitric acid. It is official in the form of a 1 per cent. alcoholic solution (spiritus glycerylis nitratis). The latter should be kept in well-stoppered cans, in a cool place, remote from lights or fires. Care must be exercised in handling it, since a dangerous explosion may result if a considerable quantity be spilled. The action of nitroglycerin is similar to that of amyl nitrite, though somewhat more permanent. Like amyl nitrite, it stimulates the heart, quickens the pulse, dilates the arteries, and so lowers the blood-pressure and depresses the spinal cord. In some persons the use of

nitroglycerin is followed by flushing of the face, dizziness, severe headache, nausea, and palpitation lasting for several hours. Nitroglycerin is much used to lessen the resistance in the peripheral vessels, in weakness of the heart muscle, to relieve cardiac pain, and to ward off or break up general convulsions and local spasms.

Dose, $\frac{1}{200}$ to $\frac{1}{50}$ of a grain (0.0003–0.0013 gm.), in specially prepared tablets.

Spirit of Nitroglycerin.—From 1 to 5 minims (0.06–0.3 c.c.), by the mouth or hypodermically.

Nitrous Oxid Gas (Laughing Gas).—**Action and Uses.**—Nitrous oxid is used as an anesthetic in dentistry and minor surgery. It is given pure from an inhaler without admixture of air. Unconsciousness comes on in from one-half to three minutes. The face is swollen and livid and the pulse slow and full. Anesthesia occurs when the blood becomes dark from the exclusion of oxygen. Recovery of consciousness and natural breathing occur in from one to three minutes without leaving any after-effects except a slight headache, which may persist for some hours.

Nuclein.—This is an albuminous substance, rich in phosphorus, extracted from the spleen and other organs. It appears as a yellow powder, insoluble in water and alcohol. One preparation is marketed under the name of "protonuclein." Nucleinic compounds, when taken internally, are said to increase the number of white blood-cells and thereby to enhance the germicidal and antitoxic power of the blood-serum. They have been used with asserted success in septicemia and various infections, including tuberculosis and pneumonia.

Dose, 3 to 5 grains (0.2–0.3 gm.).

Nut-gall (Galla; Gall).—**Action and Uses.**—Galls

are excrescences produced on the twigs of a species of oak by the stings of certain insects. They contain large quantities of tannic acid, and, therefore, possess astringent properties. The tincture is rarely used as an astringent in diarrhea. The ointment is employed as a local remedy in hemorrhoids.

Dose.—*Tincture of Nutgall* (Tinctura Gallæ).—From ½ to 2 drams (2–8 c.c.).

Ointment of Nutgall (Unguentum Gallæ).

Nutmeg (Myristica).—Action and Uses.—Nutmeg is the seed of an evergreen tree (*Myristica fragrans*) growing in the East India Islands. It is an aromatic and a carminative. It is frequently employed in combination with other drugs to correct disagreeable properties. In large doses it is a narcotic, producing stupor and delirium.

Dose, 5 to 20 grains (0.3–1.3 gm.).

Oil of Nutmeg (Oleum Myristicæ).—From 1 to 5 minims (0.06–0.3 c.c.).

Spirit or Essence of Nutmeg (Spiritus Myristicæ).—From 10 to 20 minims (0.6–1.2 c.c.).

Aromatic Powder (Pulvis Aromaticus).—From 10 to 30 grains (0.65–2.0 gm.).

Nux Vomica.—Nux vomica is the seeds of an East Indian tree, the *Strychnos nux-vomica.* It contains two alkaloids, *strychnin* and *brucin.* The medicinal action of nux vomica depends largely on its alkaloid, strychnin. Brucin acts like strychnin, but is less powerful.

Action and Uses.—Nux vomica is a powerful stimulant to the spinal cord, heart, and respiration. Under its influence the pulse increases in force and rapidity. In small doses it also acts as a bitter tonic, improving the appetite and stimulating intestinal peristalsis.

Nux vomica or strychnin is used as a circulatory stimulant in various forms of heart-failure; as a respiratory stimulant in many pulmonary diseases associated with weak respiration; as a bitter tonic in atonic dyspepsia and constipation; and as a nerve-stimulant in various paralytic affections after the acute symptoms have passed away.

Poisoning.—The *symptoms of an overdose* are twitching of the muscles of the face, arms, or legs (the twitching being more marked in paralyzed than in normal parts), slight stiffness of muscles of the neck and jaw, restlessness, and anxiety. After a poisonous dose (gr. ½) the chief symptoms are violent convulsive seizures, lasting for a few seconds, and followed by periods of relaxation. The convulsions come on more quickly in paralyzed limbs than in those under the control of the will. A draft of air, a touch, or a noise may be sufficient to excite a fresh attack of these seizures. The condition resembles tetanus, but differs from it in the complete relaxation of the muscles between the paroxysms, and in the comparative absence of trismus (lock-jaw). The mind, as a rule, remains clear to the last. Death results from exhaustion or asphyxia from spasmodic arrest of the muscles of respiration.

Treatment.—Convulsions should be controlled by inhalations of chloroform. The chemic antidote is tannic acid. The physiologic antidotes are potassium bromid (60 grains) and chloral (20 grains), and when the patient is unable to swallow, these may be given by the rectum. The stomach-pump should not be used unless the patient be under the influence of an anesthetic; otherwise the passage of the tube may cause a fatal spasm. Perfect quiet should be maintained.

Preparations and Doses.—*Strychnin Sulphate* (Strychninæ Sulphas).—From $\frac{1}{60}$ to $\frac{1}{20}$ of a grain (0.001–0.003 gm.).

Extract of Nux Vomica (Extractum Nucis Vomicæ).—From $\frac{1}{8}$ to $\frac{1}{4}$ grain (0.01–0.016 gm.).

Fluidextract of Nux Vomica (Fluidextractum Nucis Vomicæ).—From 1 to 5 minims (0.06–0.3 c.c.).

Tincture of Nux Vomica (Tinctura Nucis Vomicæ).—From 5 to 20 minims (0.3–1.2 c.c.).

Oil of Theobroma.—(See *Cacao-butter.*)

Oil of Turpentine.—(See *Turpentine.*)

Olive Oil (Oleum Olivæ).—**Action and Uses.**—Olive oil is used as a laxative enema in fecal obstruction. It is also an antidote in corrosive poisoning, protecting the mucous membrane of the stomach and preventing absorption. Externally it is applied to burns and certain skin-diseases, acting as a protective and excluding the air. It is sometimes applied to the body in the desquamative stage of scarlet fever to soothe the skin and to prevent the scales from being disseminated and carrying with them the contagion. When rubbed into the skin, it is absorbed by the lymphatics and has a nutritive effect.

Opium.—Opium is a concrete, milky exudation obtained by incising the unripe capsules of a species of poppy (*Papaver somniferum*) growing in western Asia. It contains a number of alkaloids, the chief of which are *morphin* and *codein.*

Action and Uses.—The chief action of opium is on the brain, which it depresses, relieving pain and producing sleep. Upon the respiratory center it acts as a depressant. Upon the heart it acts as a mild stimulant, the pulse under its influence becoming slower and stronger. Opium dimin-

ishes all secretions except the sweat, and this it increases. In moderate doses it lessens intestinal peristalsis and causes constipation. Locally, it acts as a mild anodyne. Elimination takes place through all the secretions, but especially through those of the stomach and kidneys.

Morphin represents very largely the active properties of opium, but has a less nauseating, less constipating, and less diaphoretic effect.

Codein resembles morphin in its action, but it is far less powerful as a hypnotic and an analgesic.

The *after-effects* of opium are headache, nausea, constipation, digestive disturbances, languor, and loss of appetite. Some patients do not sleep, but experience a feeling of calm, while others again are made very restless.

Opium is used to relieve pain; to produce sleep, especially when the insomnia is caused by pain; to allay irritative cough in pulmonary diseases; to check excessive secretion, especially from the bowel in persistent diarrhea; to promote sweating in muscular rheumatism and so-called "colds"; and, locally, in the form of lead-water and laudanum, to allay irritation in sprains, bruises, and articular rheumatism.

Children are very susceptible to the narcotic action of opium. Women are more easily affected than men, and more apt to have nausea and headache after taking it. Sometimes the nausea is felt only on rising, and not at all while the patient is lying down. Atropin (gr. $\frac{1}{100}$) is sometimes given with opium to prevent vomiting and depression.

When giving opium or morphin, the nurse must not repeat the dose unless there is a distinct indication for it, as a habit of taking the drug is easily acquired.

Opium-poisoning.—*First Stage.*—After a *large dose*

the heart's action is increased, the pupils are slightly contracted, and the surface of the skin is warm and flushed. There is a sense of comfort and exhilaration similar to that of mild intoxication, and this in turn is followed by deep sleep.

Second Stage.—When an *overdose* has been taken, the symptoms are deep sleep, a very slow pulse, slow respirations, minutely contracted pupils, dry skin, and muscular relaxation. The patient can generally be roused by shaking or pinching him, by flicking him with a wet towel, or by shouting in his ear. Death, as a rule, does not occur in this stage of opium-poisoning.

In the *third stage*, which rapidly follows, the sleep passes into profound coma; the pupils are minutely contracted, but dilate just before death; the skin is cold and covered with perspiration; the face is livid and cyanosed; the respirations are very slow, irregular, and shallow, sometimes falling to four or five a minute; the pulse is slow and feeble, but as the end approaches, it becomes more rapid. Death occurs from failure of the respiration, the latter ceasing before the heart beats.

Treatment.—The stomach should be emptied by means of the stomach-pump or a stimulating emetic, such as mustard or zinc sulphate. Since morphin is eliminated by the stomach and then reabsorbed, the stomach should be emptied at short intervals. Black coffee may be given by the mouth or rectum to stimulate respiration and to promote wakefulness. The patient must be roused from stupor and kept awake by being flicked with a wet towel. The best chemic antidote is potassium permanganate: from 3 to 5 grains (0.2–0.3 gm.) of this drug dissolved in a glass of water should be given at once and repeated in thirty minutes. Tannic acid is also employed as a chemic

antidote. The chief physiologic antidotes are the powerful respiratory stimulants—atropin, strychnin, and caffein; these should be given hypodermically. Artificial respiration is often of great value. Throughout the treatment care must be taken to avoid chilling or exhausting the patient.

Powdered Opium (Pulvis Opii).—*Dose*, ½ to 2 grains (0.03–0.13 gm.).

Extract of Opium (Extractum Opii).—*Dose*, ¼ to 1 grain (0.016–0.065 gm.).

Dover's Powder (Pulvis Ipecacuanhæ et Opii).—This contains ipecac 1 grain, opium 1 grain, and sugar of milk 8 grains. *Dose*, 5 to 10 grains (0.32–0.65 gm.).

Wine of Opium (Vinum Opii).—*Dose*, 10 to 20 minims (0.6–1.2 c.c.).

Laudanum (Tinctura Opii).—*Dose*, 10 to 20 minims (0.6–1.2 c.c.). Ten minims are equal to 20 drops. Eleven minims, or 22 drops, are equal to opium 1 grain, or morphin ⅙ grain.

Deodorized Tincture of Opium (Tinctura Opii Deodorati).—*Dose*, 10 to 20 minims (0.6–1.2 c.c.). It is less nauseating than laudanum. Ten minims are equal to 20 drops. Eleven minims, or 22 drops, are equal to opium 1 grain, or morphin ⅙ grain.

Paregoric (Camphorated Tincture of Opium; Tinctura Opii Camphorata).—*Dose*, for an adult, ½ to 4 drams (1.8–15.0 c.c.); for an infant, 1 to 5 minims (0.06–0.3 c.c.); for children, 5 to 20 minims (0.3–1.2 c.c.); ½ ounce contains about 1 grain of powdered opium.

Tincture of Ipecac and Opium (Tinctura Ipecacuanhæ et Opii).—*Dose*, 5 to 20 minims (0.3–1.2 c.c.).

Troches of Opium (Trochisci Opii).—*Dose*, 1 to 4; each troche contains opium $\frac{1}{12}$ grain (0.005 gm.).

Opium Plaster (Emplastrum Opii).

Opium Liniment (Linimentum Opii).—This contains equal parts of tincture of opium and soap liniment.

Opium Enema (Enema Opii).—This contains ½ dram (2 c.c.) of tincture of opium and 2 ounces (60 c.c.) of boiled starch.

Morphin (Morphina).—From ⅛ to ½ grain (0.008–0.032 gm.).

Morphin Acetate (Morphinæ Acetas).—From ⅛ to ½ grain (0.008–0.032 gm.).

Morphin Hydrochlorid (Morphinæ Hydrochloridum).—From ⅛ to ½ grain (0.008–0.032 gm.).

Morphin Sulphate (Morphinæ Sulphas).—From ⅛ to ½ grain (0.008–0.032 gm.).

Tulley's Powder (Compound Powder of Morphin; Pulvis Morphinæ Compositus).—From 5 to 10 grains (0.3–0.6 gm.). This contains morphin, licorice, camphor, and chalk.

Magendie's Solution of Morphin.—This is a 4 per cent. solution of morphin in distilled water. *Dose*, 5 to 10 minims (0.3–0.6 c.c.).

Codein (Codeina).—From ½ to 2 grains (0.03–0.13 gm.).

Codein Sulphate (Codeinæ Sulphas).—From ½ to 2 grains (0.03–0.13 gm.).

Codein Phosphate (Codeinæ Phosphas).—From ½ to 2 grains (0.03–0.13 gm.).

Heroin Hydrochlorid.—From $\frac{1}{12}$ to ⅛ grain (0.005–0.008 gm.). This is an alkaloid prepared artificially from morphin.

Orange (Aurantium).—The preparations are prepared from two varieties of the fruit: Bitter orange (*Citrus vulgaris*) and sweet orange (*Citrus Aurantium*). Orange is

used chiefly as a flavoring agent, although the bitter variety has mild stomachic properties.

Dose.—*Bitter Orange-peel* (Aurantii Amari Cortex).—From 15 to 30 grains (1–2 gm.).

Fluidextract of Bitter Orange (Fluidextractum Aurantii Amari).—From 15 to 30 minims (1–2 c.c.).

Tincture of Bitter Orange (Tinctura Aurantii Amari).—From 1 to 2 drams (4–8 c.c.).

Oil of Orange (Oleum Aurantii Corticis).—From 1 to 5 minims (0.06–0.3 c.c.).

Compound Spirit of Orange (Spiritus Aurantii Compositus).—From 10 to 60 minims (0.6–4.0 c.c.).

Syrup of Orange (Syrupus Aurantii).—From 1 to 4 drams (4–15 c.c.).

Tincture of Sweet Orange (Tinctura Aurantii Dulcis).—From 1 to 2 drams (4–8 c.c.).

Water of Orange Flowers (Aqua Aurantii Florum).—From 1 to 8 drams (4–30 c.c.).

Syrup of Orange Flowers (Syrupus Aurantii Florum).—From 1 to 4 drams (4–15 c.c.).

Aromatic Elixir (Elixir Aromaticum).—From 1 to 4 drams (4–15 c.c.).

Orexin.—This is a complex synthetic compound occurring as a yellowish-white, odorless powder with a chalky taste. It has been especially employed as a stomachic, to stimulate the appetite in phthisis, anemia, and neurasthenia. The tannate of orexin, being freest from irritant properties, is the best preparation for medicinal use.

Dose, 5 to 8 grains (0.3–0.5 gm.) in tablets or capsules, with a large draft of water.

Orphol.—(See *Naphthalen.*)

Orthoform.—This is a complex synthetic compound,

occurring as a white powder, free from odor and taste. It is only sparingly soluble in water. Orthoform is used as a local analgesic and antiseptic. It has been found serviceable as a local remedy in painful wounds, burns, and tuberculous and cancerous ulcerations. Unfortunately, its local application is occasionally followed by severe inflammation of the skin.

Oxalic Acid.—(See *Acids.*)

Ox-gall (Fel Bovis).—Ox-gall is employed medicinally only after it has been purified by being treated with alcohol for several days. *Purified ox-gall* (Fel Bovis Purificatum) is a yellowish-green, soft solid, having a peculiar odor and a partly sweet and partly bitter taste. It is employed as a hepatic stimulant and cathartic.

Dose, 5 to 10 grains (0.3–0.6 gm.) two hours after meals.

An admirable purgative enema, especially when there is fecal impaction, is made by dissolving half an ounce of ox-gall in two pints of warm water.

Oxid of Zinc.—(See *Zinc.*)

Pancreatin (Pancreatinum).—This is a digestive ferment obtained from the fresh pancreas of the hog. It is a yellowish-white powder having a faint odor and a meat-like taste. In the presence of alkalis it converts albuminous matter into soluble and diffusible peptones, changes starch into sugar, and aids in the emulsifying of fats. It is employed in indigestion when there is a lack of acid in the gastric juice. It is also used for predigesting milk. The latter is accomplished as follows: Mix 5 grains of pancreatin and 20 grains of sodium bicarbonate in a small teacupful of cool water, and pour into a bottle containing a pint of fresh milk. Place the bottle in water so hot that the hand can be held in it without

discomfort for a minute. As thoroughly digested milk has an unpleasant bitter taste, it is well to arrest digestion at the end of fifteen or twenty minutes by raising the milk for a few seconds to the boiling-point or by placing the bottle on ice.

Dose, 5 to 30 grains (0.3–2.0 gm.).

Papayotin (Papain; Papoid; Caroid).—Papayotin is a ferment obtained from the papaw or melon tree (*Carica papaya*) growing in the tropics. It has some power of converting starch into sugar, of emulsifying fats, and of changing albumins into peptone, and, unlike pancreatin, will act not only in alkaline solutions, but also in solutions that are somewhat acid. The preparations of the drug on the market are somewhat unreliable.

Paraldehyd (Paraldehydum).—Paraldehyd is a synthetic compound appearing as a colorless liquid, having a penetrating ethereal odor and a disagreeable, pungent taste. It is a reliable hypnotic, especially useful in insomnia associated with great mental excitement. Its chief drawbacks are its unpleasant taste, liability to disturb digestion, and the disagreeable odor which it imparts to the breath for several hours after it has been taken.

Dose, ½ to 1 dram (2–4 c.c.), in capsule or in aromatic elixir.

Pareira (Pareira Brava).—This is the root of a climbing tree (*Chondrodendron tomentosum*) growing in South America. It is employed as a stimulant diuretic in subacute and chronic inflammations of the genito-urinary tract.

Dose.—*Fluidextract of Pareira* (Fluidextractum Pareiræ).—From ½ to 1 dram (2–4 c.c.).

Pelletierin.—(See *Pomegranate.*)

Pennyroyal (Hedeoma).—Pennyroyal is the leaves

and tops of an annual herb (*Hedeoma pulegioides*) growing in North America. It contains a volatile oil. It is a popular emmenagogue, especially useful in acute suppression of the menses from exposure to cold.

Infusion of Pennyroyal (Infusum Hedeomæ).—From 1 to 2 ounces (30–60 c.c.), to be taken while hot.

Oil of Pennyroyal (Oleum Hedeomæ).—From 3 to 5 minims (0.2–0.3 c.c.).

Pepo (Pumpkin-seed).—Pumpkin-seed is an efficient vermifuge against the tape-worm, and is not followed by unpleasant symptoms.

Dose, 1 to 3 ounces (30–90 gm.) in emulsion, made by beating the kernels of the seed into a paste, adding sugar, and diluting with water or milk. It should be taken on an empty stomach and followed in two or three hours by a cathartic.

Peppermint (Mentha Piperita).—Peppermint is the leaves and tops of a perennial herb (*Mentha piperita*) growing widely in temperate regions. It contains a volatile oil. It is used chiefly as a carminative in flatulence and colic, and as a flavoring agent.

Dose.—*Oil of Peppermint* (Oleum Menthæ Piperitæ).—From 1 to 5 minims (0.06–0.3 c.c.).

Peppermint Water (Aqua Menthæ Piperitæ).—From 1 to 8 drams (4–30 c.c.).

Spirit or Essence of Peppermint (Spiritus Menthæ Piperitæ).—From 10 to 20 minims (0.6–1.2 c.c.).

Troches of Peppermint (Trochisci Menthæ Piperitæ).—One as required.

Pepsin (Pepsinum).—Pepsin is a ferment obtained from the glandular layer of fresh stomachs of healthy pigs. It occurs as a yellowish-white powder or as yel-

lowish scales, having a faint odor and a slightly acid or saline taste. It has the power, in the presence of acids, of converting albumins into absorbable peptones. To be up to the official standard, it should be capable of digesting not less than 3000 times its own weight of freshly coagulated egg-albumen. Pepsin is useful in certain gastric affections in which there is defective peptic digestion.

Dose, 5 to 20 grains (0.3–1.3 gm.) after meals, preferably with dilute hydrochloric acid.

Saccharated Pepsin (Pepsinum Saccharatum).—From 20 to 60 grains (1.3–4.0 gm.). As this preparation contains but 10 per cent. of pepsin, its digestive power is very feeble.

Petrolatum.—Petrolatum is a mixture of hydrocarbons obtained by distilling off the more volatile portions from petroleum. It is official in three forms:

Petrolatum.—An amber-colored fatty mass, about the consistence of ointment.

White Petrolatum (Petrolatum Album).—A colorless fatty mass, about the consistence of an ointment.

Liquid Petrolatum (Petrolatum Liquidum).—A colorless, oily liquid, without odor or taste.

Liquid petrolatum is used in the form of a spray as a sedative and protective application in the treatment of inflammatory diseases of nose, throat, and larynx. It is also employed as a solvent for many medicinal agents. Petrolatum and white petrolatum are used as protectives in skin diseases and as bases for ointments. The various forms of petrolatum have an advantage over other fats in not becoming rancid.

Phenacetin (Phenacetinum).—Action and Uses.—Phenacetin is a coal-tar derivative appearing as a colorless, tasteless powder, only sparingly soluble in water,

but freely so in alcohol. It is employed as antipyretic, analgesic, and nerve-sedative. It is apparently less toxic than either acetanilid or antipyrin, the action of which it closely resembles.

Dose, 5 to 10 grains (0.3–0.65 gm.), in powder, capsule, or tablet.

Poisoning.—*Symptoms.*—Toxic doses cause marked cyanosis, feeble breathing, free perspiration, a weak pulse, dilatation of the pupils, and collapse.

Treatment.—This consists in the application of external heat and the administration of cardiac and respiratory stimulants, such as ammonia and strychnin. Oxygen inhalations are also useful.

The indiscriminate use of coal-tar drugs, such as phenacetin and antipyrin, for the relief of headache or neuralgia is to be strongly condemned. Prolonged use is often followed by grave symptoms, such as cyanosis, hurried breathing, enfeebled circulation, sweating, and mental confusion.

Phenazon.—(See *Antipyrin.*)

Phenocoll Hydrochlorid.—This is a coal-tar derivative appearing as a white, crystalline powder, soluble in water. It has an action very closely resembling that of phenacetin, for which it may be employed as a substitute.

Dose, 5 to 15 grains (0.3–1.0 gm.) in powder or capsule.

Phenol.—(See *Carbolic Acid.*)

Phosphorus.—Phosphorus is a non-metallic element derived from bones. It has a characteristic garlicky odor and taste.

Action and Uses.—Phosphorus is used as a tonic, nerve-stimulant, and producer of bone. It is frequently

employed in functional diseases of the nervous system, such as neurasthenia and neuralgia, and certain nutritional diseases of bone, especially rickets. In large doses it acts as a corrosive poison.

Dose, $\frac{1}{100}$ to $\frac{1}{60}$ grain (0.0006–0.0013 gm.) in pill form.

Poisoning.—*Symptoms.*—The symptoms, which may not appear for several hours after the ingestion of the drug, are a garlicky odor to the breath, the taste of phosphorus in the mouth, burning pain in the esophagus, stomach, and abdomen, violent vomiting, and purging. The discharges, if seen in the dark, are luminous. At the end of twenty-four or thirty-six hours the symptoms abate, but they soon reappear, and are followed by vomiting of altered blood ("coffee-grounds"), white, clay-like stools, jaundice, delirium, convulsions, coma, and death.

Treatment.—The best emetic is sulphate of copper. The best antidote is potassium permanganate. These drugs should be followed by demulcents. As phosphorus is soluble in oil, all oily substances must be withheld.

Preparations.—*Elixir of Phosphorus* (Elixir Phosphori).—*Dose*, $\frac{1}{2}$ to 1 dram (2–4 c.c.).

Phosphorated Oil (Oleum Phosphoratum).—*Dose*, 1 to 2 minims (0.06–0.12 c.c.). One minim equals $\frac{1}{115}$ grain of phosphorus.

Pills of Phosphorus (Pilulæ Phosphori).—*Dose*, 1 or 2.

Spirit of Phosphorus (Spiritus Phosphori).—From 5 to 15 minims (0.5–1.0 c.c.).

Zinc Phosphid (Zinci Phosphidum).—From $\frac{1}{250}$ to $\frac{1}{100}$ grain (0.0026–0.0065 gm.).

Physostigma (Calabar Bean).—**Action and Uses.**—Physostigma is the seed of a perennial climber (*Phy-*

sostigma venenosum) growing in western Africa. It contains an alkaloid, *physostigmin* or *eserin*, which fairly represents the active properties of the bean. It has three important actions: it depresses the spinal cord; it stimulates intestinal peristalsis; and when applied directly to the eye in the form of physostigmin, it contracts the pupil (myotic).

Physostigma or its alkaloid is employed to check spinal convulsions, such as occur in tetanus and strychnin-poisoning; to aid the action of cathartics in atony of the bowel; and to contract the pupil in certain diseases of the eye.

Poisoning.—*Symptoms.*—The chief symptoms are vertigo, muscular weakness, tremors, salivation, contraction of the pupils, and asphyxia.

Treatment.—This consists in evacuating the stomach, in administering tannic acid as a chemic antidote and atropin hypodermically as a physiologic antidote, and in combating cardiac and respiratory failure with external heat and diffusible stimulants, such as ammonia and alcohol.

Dose.—*Extract of Physostigma* (Extractum Physostigmatis).—From $\frac{1}{16}$ to $\frac{1}{8}$ grain (0.004–0.008 gm.).

Tincture of Physostigma (Tinctura Physostigmatis).—From 5 to 20 minims (0.3–1.2 c.c.).

Physostigmin Salicylate (Eserin Salicylate; Physostigminæ Salicylas).—An alkaloid of physostigma—$\frac{1}{150}$ to $\frac{1}{60}$ grain (0.0005–0.001 gm.).

Physostigmin Sulphate (Eserin Sulphate; Physostigminæ Sulphas).—From $\frac{1}{150}$ to $\frac{1}{60}$ grain (0.0005–0.001 gm.). Both the sulphate and the salicylate of physostigmin are used locally by ophthalmologists, in solutions of from 1 to 4 grains to 1 ounce of water. They are

used in the treatment of affections of the eye, and also to counteract the effects of atropin on the pupil.

Phytolacca (Poke).—Action and Uses.—Phytolacca is official as the root (phytolaccæ radix) of a perennial herb (*Phytolacca decandra*) growing in waste places in North America. It is sometimes used as an alterative in chronic rheumatism and certain skin-diseases.

Dose.—Of the *fruit*, 5 to 15 grains (0.3–1.0 gm.); of the *root*, 5 to 30 grains (0.3–2.0 gm.).

Fluidextract of Phytolacca (Fluidextractum Phytolaccæ).—*Dose*, 5 to 30 minims (0.3–2.0 c.c.).

Picrotoxin (Picrotoxinum).—Action and Uses.—Picrotoxin is a principle obtained from fish-berries (*Anamirta cocculus*), growing in India and the Malayan Islands. It is chiefly used to combat night-sweats. The tincture of fish-berry is a reliable application for head-lice.

Dose, $\frac{1}{80}$ to $\frac{1}{30}$ grain (0.0008–0.002 gm.), in pill or tablet.

Pills.—**Blaud's Pills.**—These are pills of carbonate of iron (pilulæ ferri carbonatis). They are used in anemia. *Dose*, 1 or 2 pills.

Blue Pill.—This is a common name applied to blue-mass (massa hydrargyri), a mixture of metallic mercury, honey of rose, and glycerin. It is used as a cathartic. *Dose*, 3 to 15 grains (0.2–1.0 gm.).

Compound Cathartic Pills (Pilulæ Catharticæ Compositæ).—These are pills containing 1 grain of calomel, with gamboge, extract of colocynth, resin of scammony, and extract of jalap. They are employed to secure thorough evacuation of the bowels in obstinate constipation. *Dose*, 1 to 3 pills.

Lady Webster's Dinner Pills.—These are pills of aloes and mastich (pilulæ aloes et mastiches), containing about 2 grains of aloes with mastich and red rose. They

are employed as cathartics in mild but persistent constipation. *Dose*, 1 to 3 pills.

Plummer's Pills.—These are compound pills of antimony (Pilulæ Antimonii Compositæ), containing about ½ grain of sulphurated antimony, with calomel, guaiac, and castor oil. They are seldom used at present, but were formerly largely employed as an alterative. *Dose*, 1 to 3 pills.

Vegetable Cathartic Pills (Pilulæ Catharticæ Vegetabiles).—These contain extract of colocynth, aloes, resin of scammony, extract of jalap, extract of hyoscyamus, extract of leptandra, extract of podophyllum, and oil of peppermint. They are employed to secure thorough evacuation of the bowel in obstinate constipation. *Dose*, 1 to 3 pills.

Compound Laxative Pills (Pilulæ Laxativæ Compositæ).—These contain aloin, strychnin, extract of belladonna, and ipecac. They are employed in mild but persistent constipation. *Dose*, 1 to 3 pills.

Pilocarpus (Jaborandi).—**Action and Uses.**—Pilocarpus is the leaflets of a shrub (*Pilocarpus Jaborandi* and other species of Pilocarpus) growing in South America. It contains several alkaloids, the chief of which is *pilocarpin.*

The chief effect of pilocarpin in medicinal doses is an increase in the secretions, especially of the sweat and saliva. In from ten to fifteen minutes after the hypodermic administration of the drug profuse perspiration is established and persists for several hours. The secretions of the nose, mouth, and alimentary canal are also increased. During or after the sweating there may be nausea or vomiting. Coincident with the diaphoresis there are a decided fall in the body-temperature and a lessening of the force and frequency of the pulse. A

patient taking jaborandi for its diaphoretic action should be placed between blankets and carefully watched until the effects have passed away. The depression should be met with external heat, and stimulants if necessary. When pilocarpin is given in small doses by the mouth and the patient is kept lightly covered, an increased flow of urine occurs instead of the diaphoresis.

If a solution of pilocarpin (1 to 4 grains to the ounce) be dropped in the eye, contraction of the pupil results, this action of the drug being similar to but less powerful than that of eserin.

As a diaphoretic, pilocarpin is chiefly employed in Bright's disease to favor the elimination of poisonous matters through the skin and to aid in the removal of dropsical accumulations.

Poisoning.—*Symptoms.*—The chief symptoms of pilocarpin-poisoning are salivation, copious sweating, nausea, vomiting, serous purging, contraction of the pupils, dropsy of the lungs, and collapse.

Treatment.—This consists in maintaining the body-temperature, in combating collapse with circulatory stimulants, and in counteracting the effect of the drug on secretion with atropin.

Dose.—*Pilocarpin Hydrochlorid* (Pilocarpinæ Hydrochloridum).—From $\frac{1}{8}$ to $\frac{1}{2}$ grain (0.008–0.03 gm.), hypodermically.

Pilocarpin Nitrate (Pilocarpinæ Nitras).—From $\frac{1}{8}$ to $\frac{1}{2}$ grain (0.008–0.03 gm.), hypodermically.

Fluidextract of Pilocarpus (Fluidextractum Pilocarpi).—From 20 to 60 minims (1.5–4.0 c.c.).

Infusion of Pilocarpus (Infusum Pilocarpi).—From 1 to 2 ounces (30–60 c.c.).

Pinkroot.—(*See Spigelia.*)

Piperazin.—This is a compound produced by the action of ammonia on ethylene bromid. It has been especially advocated as a solvent of uric acid in gout and allied affections. Its use, however, has not met with general favor.

Dose, 5 to 10 grains (0.3–0.65 gm.) in large drafts of water.

Pix Liquida.—(See *Tar.*)

Plumbum.—(See *Lead.*)

Podophyllum (May-apple).—**Action and Uses.**—Podophyllum is the rhizome and roots of a perennial herb (*Podophyllum peltatum*) growing in North America. In full doses it is a slow but active cathartic, producing copious liquid evacuations, often with considerable griping. It is also thought to be a hepatic stimulant or cholagogue. It is useful in habitual constipation associated with bilious attacks.

Dose.—*Resin of Podophyllum or Podophyllin* (Resina Podophylli).—From $\frac{1}{8}$ to $\frac{1}{2}$ grain (0.008–0.03 gm.).

Fluidextract of Podophyllum (Fluidextractum Podophylli).—From 2 to 20 minims (0.12–1.2 c.c.).

Pills of Podophyllum, Belladonna, and Capsicum (Pilulæ Podophylli, Belladonnæ et Capsici).—From 1 to 2 pills.

Pomegranate (Granatum).—**Action and Uses.**—Pomegranate is the bark of a small tree growing in southwestern Asia and other tropic countries. It contains a number of alkaloids, the most important of which is *pelletierin.* Pomegranate or its chief alkaloid is a reliable remedy for tape-worm. Large doses of the drug may be followed by headache, nausea, vomiting, and muscular weakness.

Dose.—*Decoction of Pomegranate* (Decoctum Granati).—This is made by soaking 2 ounces (60 gm.) of the bark

in 2 pints (1 L.) of water for twenty-four hours, and then boiling down to one pint (0.5 L.)—1 ounce (30 c.c.).

Pelletierin Tannate (Pelletierinæ Tannas).—From 5 to 8 grains (0.3–0.5 gm.) in powder or capsule.

Tanret's Pelletierin.—This is a very reliable preparation. It is a syrupy solution. Each bottle contains one dose for an adult.

Potassium.—Potassium is represented by a number of official salts; the metal itself is not used medicinally.

Potassium Hydroxid (Potassium Hydroxidum; Potassa; Caustic Potash; Lye).—This preparation appears as grayish-white pencils or fused masses, and is used externally as a powerful and quickly acting caustic. When applying the caustic, the surrounding parts should first be protected by a piece of adhesive plaster, with an opening in its center a little smaller than the size of the part to be cauterized. The caustic, slightly wetted, is then rubbed on the part until it assumes a grayish color; the plaster is then removed, and the caustic washed off with equal parts of vinegar and water. The application is very painful.

Symptoms of Poisoning.—Severe burning pain in the throat, stomach, and abdomen, violent vomiting, purging of bloody material, and collapse.

The *treatment* consists in the use of mild vegetable acids, such as vinegar or lemon-juice, to neutralize the poison. Vomiting should then be encouraged, and followed with olive oil, milk, and other demulcent drinks, to soothe the mucous membrane. External heat and stimulants may be indicated.

Dose.—*Solution of Potassium Hydroxid* (Liquor Potassii Hydroxidi; Liquor Potassæ).—From 5 to 30 minims (0.3–2.0 c.c.). In this form caustic potash is sometimes used internally as an antacid.

Potassium Acetate (Potassii Acetas).—This salt appears as a white, granular or crystalline, soluble powder, of a saline taste. It is used as an unirritating diuretic in Bright's disease, as a urinary antacid in acute cystitis and uric-acid gravel, and as an alkali in rheumatism and gout. *Dose*, 15 to 60 grains (1–4 gm.).

Potassium Arsenite.—(See *Arsenic.*)

Potassium Bicarbonate (Potassii Bicarbonas; Saleratus).—This salt has the same therapeutic value as the acetate, but is far less pleasant to take. *Dose*, 15 to 60 grains (1–4 gm.).

Potassium Bitartrate (Potassii Bitartras; Cream of Tartar).—This is one of the most agreeable of the salts of potassium. It is used as a diuretic, an antirheumatic, and a urinary antacid. In large doses it is an active cathartic. *Dose*, 15 to 60 grains (1–4 gm.).

A pleasant *refrigerant drink* is made by dissolving 1 dram (4 gm.) of cream of tartar in a pint (0.5 L.) of boiling water, and adding half of a fresh lemon-peel and some sugar.

Cream of tartar whey is made by adding 1 dram (4 gm.) of the salt to ½ pint (235 c.c.) of milk.

Rochelle salt (Double Tartrate of Potassium and Sodium).—This is formed by adding cream of tartar to a hot solution of sodium carbonate.

Potassium Bromid.—(See *Bromids.*)

Potassium Carbonate (Potassii Carbonas).—This salt has about the same properties as the bicarbonate, but is most too irritant for internal use.

Potassium Chlorate (Potassii Chloras).—This salt occurs in the form of colorless crystals, odorless, and of a saline taste. It is much used as a local application in various inflammatory affections of mouth and throat. In ulcerative stomatitis, an infectious form of sore mouth

occurring in ill-nourished children, it is a valuable remedy, both locally and internally. The action of the drug on the heart and kidneys must be carefully watched. *Dose*, 2 to 10 grains (0.13–0.65 gm.), well diluted.

Troches of Potassium Chlorate (Trochisci Potassii Chloratis).—From 1 to 3.

Poisoning.—In overdoses potassium chlorate is an irritant poison, producing abdominal pain, vomiting, purging, cyanosis, dyspnea, scanty bloody urine, and collapse. The drug should not be used without the advice of a physician.

Potassium Citrate (Potassii Citras).—This salt has the same properties as potassium acetate and is used for the same purposes. *Dose*, 15 to 60 grains (1–4 gm.).

Solution of Potassium Citrate (Liquor Potassii Citratis; Neutral Mixture).—*Dose*, ½ to 1 ounce (15 to 30 c.c.).

Effervescent Potassium Citrate (Potassii Citras Effervescens).—*Dose*, 30 to 90 grains (2–6 gm.).

Potassium Cyanid (Potassium Cyanidum).—Potassium cyanid has the same action as hydrocyanic acid, and may be substituted for it.

The *symptoms* and *treatment of poisoning* are the same as in hydrocyanic acid poisoning. *Dose*, $\frac{1}{20}$ to $\frac{1}{10}$ grain (0.0032–0.0065 gm.).

Potassium Iodid.—(See *Iodids.*)

Potassium Nitrate (Potassii Nitras).—The action of this salt resembles that of the acetate and citrate, but is more irritating to the stomach and more depressing to the heart. It is occasionally used as a diuretic in dropsy. *Dose*, 10 to 30 grains (0.6–2.0 gm.), in solution, well diluted.

Potassium-nitrate Paper (Charta Potassii Nitratis; Niter Paper).—This is paper which has been soaked in a solu-

tion of potassium nitrate and dried. Inhalation of the fumes of burning niter paper sometimes affords relief in asthma.

Potassium Permanganate (Potassii Permanganas).—This salt occurs in the form of dark-purple crystals, of a sweetish taste, and very soluble in water. In the presence of organic matter it readily parts with its oxygen, hence it is a prompt deodorant and disinfectant. Although the rapidity with which it is decomposed naturally restricts its usefulness, solutions of from 20 to 60 grains (1.3–4 gm.) to the pint (0.5 L) are often employed advantageously for their deodorant and disinfectant properties in many conditions associated with offensive discharges. A warm saturated solution makes a reliable disinfectant for the hands when followed by a saturated solution of oxalic acid.

Potassium permanganate stains everything with which it comes in contact, but the stain is easily removed with a weak solution of oxalic acid.

Internally, potassium permanganate is used as an emmenagogue and as an antidote in opium-poisoning. In large dose the drug acts as a corrosive poison. *Dose*, 1 to 3 grains (0.32–0.2 gm.) in pill or tablet, after meals, with large drafts of water. In opium-poisoning from 3 to 5 grains (0.2–0.3 gm.), dissolved in a glassful of water, should be given at once and repeated in thirty minutes.

Condy's Fluid.—This is a disinfectant solution containing 16 grains (1.03 gm.) of potassium permanganate to the ounce (30 c.c.) of water.

Potassium and Sodium Tartrate (Potassii et Sodii Tartras; Rochelle Salt).—This preparation is used as a hydragogue cathartic. It is somewhat less active than Epsom salt, but more agreeable to take. It is an ingre-

dient of Seidlitz powders. *Dose*, 1 to 4 drams (4–15 gm.). It may be taken in hot water with a few drops of tincture of ginger or in Seltzer water.

Powders.—Aromatic Powder (Pulvis Aromaticus).—This is a powder containing cinnamon, ginger, cardamom, and nutmeg. It is used for flavoring purposes. *Dose*, 10 to 30 grains (0.65–2.0 gm.).

Compound Chalk Powder (Pulvis Cretæ Compositus).—This is a powder containing prepared chalk, acacia, and sugar. It is employed as an astringent in diarrhea. *Dose*, 5 to 60 grains (0.3–4.0 gm.).

Compound Licorice Powder (Pulvis Glycyrrhizæ Compositus).—This is a powder containing senna, sulphur, licorice, fennel, and sugar. It is employed as a mild laxative. *Dose*, ½ to 2 drams (2–8 gm.).

Compound Jalap Powder (Pulvis Jalapæ Compositus).—This is a powder containing about one-third jalap and two-thirds potassium bitartrate. It is an active hydragogue cathartic. *Dose*, 15 to 40 grains (1.0–2.6 gm.).

Dover's Powder (Powder of Ipecac and Opium; Pulvis Ipecacuanhæ et Opii).—This is a powder containing 1 grain (0.065 gm.) each of opium and ipecac to 8 grains (0.52 gm.) of sugar of milk. It is employed as a diaphoretic and anodyne. *Dose*, 5 to 10 grains (0.3–0.65 gm.).

James's Powder (Pulvis Antimonialis).—This is a powder composed of one-third antimony oxid and two-thirds calcium phosphate. It is a diaphoretic, but is rarely used at the present time. *Dose*, 3 to 10 grains (0.2–0.65 gm.).

Gregory's Powder (Compound Powder of Rhubarb; Pulvis Rhei Compositus).—This is a powder composed

of rhubarb, magnesia, and ginger. It is a mild cathartic. *Dose*, ½ to 1 dram (2–4 gm.).

Seidlitz Powder (Compound Effervescing Powder; Pulvis Effervescens Compositus).—Each *blue* powder contains 2 drams (7.75 gm.) of Rochelle salts and 40 grains (2.6 gm.) of sodium bicarbonate. Each *white* powder contains 35 grains (2.25 gm.) of tartaric acid. It is a mild saline cathartic. *Dose*, one set of powders.

Tully's Powder (Compound Powder of Morphin; Pulvis Morphinæ Compositus).—Each 10 grains (0.6 gm.) of the powder contain ⅙ grain (0.01 gm.) of morphin sulphate, with camphor, licorice, and calcium phosphate. It is used as an anodyne and somnifacient. *Dose*, 5 to 10 grains (0.3–0.65 gm.).

Protargol.—(See *Silver.*)

Pulsatilla.—**Action and Uses.**—Pulsatilla is the herb of a perennial plant (*Anemone pulsatilla* or *Anemone prætensis*) growing in temperate regions. It contains a crystalline principle known as *anemonin*. Locally, pulsatilla is an irritant. Internally, large doses depress the heart and may cause nausea and vomiting. The drug has been largely abandoned by regular practitioners, but is sometimes used as a heart-depressant in acute inflammatory diseases, as a respiratory sedative in asthma, and as an emmenagogue.

Dose.—*Extract of Pulsatilla* (Extractum Pulsatillæ).—Form ½ to 1 grain (0.032–0.065 gm.).

Fluidextract of Pulsatilla (Fluidextractum Pulsatillæ).—From 1 to 5 minims (0.06–0.03 c.c.).

Anemonin.—From $\frac{1}{12}$ to ½ grain (0.0054–0.03 gm.).

Pumpkin-seed.—(See *Pepo.*)

Pyrethrum (Pellitory).—**Action and Uses.**—Pyrethrum is the root of a perennial plant (*Anacyclus pyre-*

thrum) growing in northern Africa. It contains a resinous principle, *pyrethrin*. It is a local irritant. When chewed, it causes a prickling sensation in the mouth and a copious flow of saliva. Internally, large doses cause bloody diarrhea, quickening of the pulse, convulsions, and stupor. It is occasionally employed as a sialogogue and stimulant to mucous membranes.

Dose, ½ to 1 dram (2–4 gm.), administered by mastication.

Tincture of Pyrethrum (Tinctura Pyrethri).—Used locally.

Pyridin.—**Action and Uses.**—Pyridin is a base found in tobacco-smoke and coal-tar naphtha. It is a colorless liquid with a powerful and persistent odor. The inhalation of its fumes has been found of value in asthma, about a dram of the drug being exposed upon a plate, in a small closed room, in which the patient remains for half an hour.

In toxic doses pyridin produces cyanosis, muscular relaxation, and asphyxia.

Pyrogallol (Pyrogallic Acid).—**Action and Uses.**—Pyrogallol is produced by the action of heat on gallic acid. It occurs in the form of colorless, soluble needles, of a bitterish taste. Locally it is a powerful irritant or caustic and a parasiticide. It stains the skin and clothing a brownish color. As a caustic, it is generally employed in the form of an ointment, from 20 to 40 per cent. in strength. As a local stimulant or parasiticide, it may be employed in an ointment or in flexible collodion, in the strength of from 10 to 40 grains (0.65–2.6 gm.) to the ounce (30 gm.). When applied over too large a surface, absorption may result, with poisoning, the symptoms of which are headache, vomiting, diarrhea, chills, a green-

ish hue of the skin, dark-brown colored urine, rapid pulse and respiration, restlessness, coma, and death.

Quassia.—**Action and Uses.**—Quassia is the wood of a large tree (*Picrasma excelsa*) growing in the West Indies. It contains a bitter principle known as *quassin*. It is employed as a stomachic and bitter tonic in mild forms of indigestion and in the convalescence of acute fevers. The infusion is also used in the form of an enema for the destruction of seat-worms.

Dose.—*Extract of Quassia* (Extractum Quassiæ).—From 1 to 3 grains (0.065–0.2 gm.).

Fluidextract of Quassia (Fluidextractum Quassiæ).—From 5 to 10 minims (0.3–0.6 c.c.).

Tincture of Quassia (Tinctura Quassiæ).—From $\frac{1}{2}$ to 1 dram (2–4 c.c.).

Infusion of Quassia (Infusum Quassiæ).—From 1 to 3 ounces (30–90 c.c.). As an enema, $\frac{1}{2}$ to 1 pint (235–475 c.c.). The infusion is made by adding 2 drams of the chips to 1 pint of cold water, allowing it to stand half an hour, and then straining.

Quassin.—From $\frac{1}{30}$ to $\frac{1}{3}$ grain (0.002–0.02 gm.).

Quicksilver.—(See *Mercury.*)

Quinin.—(See *Cinchona.*)

Resin.—(See *Rosin.*)

Rosin (Resina).—**Action and Uses.**—Rosin is the hard residue remaining after distilling off the volatile oil (oil of turpentine) from turpentine (terebinthina). In the form of the cerate it is chiefly employed as a stimulating application in indolent ulcers, and in the form of the plaster it is used for the fixation of surgical dressings.

Preparations.—*Rosin Cerate* (Ceratum Resinæ).—This consists of rosin (35 parts), yellow wax (15 parts), and lard (50 parts).

Compound Rosin Cerate (Ceratum Resinæ Composi-

tum).—Rosin (22.5 parts), yellow wax (22.5 parts), suet (30 parts), turpentine (11.5 parts), and linseed oil (13.5 parts).

Resorcin (Resorcinol).—Action and Uses.—Resorcin occurs in the form of colorless crystals, having a sweetish, pungent taste. Chemically, it is allied to carbolic acid, which it also resembles in action, although it is less toxic and irritant. Large doses cause dizziness, headache, ringing in the ears, tremors, convulsions, unconsciousness, and collapse.

Resorcin is chiefly employed in solution or in ointment, in the strength of from 5 to 20 grains (0.3–1.3 gm.) to the ounce (30 c.c. or gm.), in the treatment of certain skin-diseases, especially in eczema, pruritus, and dandruff. Internally, it is occasionally used as an antiseptic in flatulent dyspepsia and diarrhea.

Dose, 1 to 5 grains (0.06–0.3 gm.) in pill or capsule.

Rhamnus Purshiana.—(See *Cascara Sagrada.*)

Rheum (Rhubarb).—Rhubarb is the root of a perennial herb (*Rheum officinale*) growing in Asia.

Action and Uses.—In small doses it is a stomachic and laxative. In large doses it is a purgative. As it contains tannic acid, constipation is apt to follow its cathartic action.

Dose, 10 to 30 grains (0.65–2.0 gm.).

Extract of Rhubarb (Extractum Rhei).—From 5 to 10 grains (0.32–0.65 gm.).

Fluidextract of Rhubarb (Fluidextractum Rhei).—From 10 to 30 minims (0.6–2.0 c.c.).

Syrup of Rhubarb (Syrupus Rhei).—From ½ to 4 drams (2–15 c.c.).

Aromatic Syrup of Rhubarb (Syrupus Rhei Aromaticus).—From ½ to 4 drams (2–15 c.c.).

Tincture of Rhubarb (Tinctura Rhei).—From 1 to 2 drams (4–8 c.c.).

Aromatic Tincture of Rhubarb (Tinctura Rhei Aromatica).—From ½ to 1 dram (2–4 c.c.).

Sweet Tincture of Rhubarb (Tinctura Rhei Dulcis).—From 1 to 2 drams (4–8 c.c.).

Pills of Rhubarb (Pilulæ Rhei).—From 1 to 3 pills. Each pill contains 3 grains of rhubarb.

Compound Rhubarb Powder (Pulvis Rhei Compositus).—From ½ to 1 dram (2–4 gm.).

Rhus Glabra.—(See *Sumach.*)

Rochelle Salt.—(See *Potassium and Sodium Tartrate*).

Rose (Rosa).—The petals of two species of the rose are employed in medicine—pale rose (*Rosa centifolia*) and red rose (*Rose gallica*). They contain a volatile oil, tannic acid, and a small amount of sugar. The preparations of rose are feebly astringent; they are chiefly used, however, as agreeable vehicles.

Preparations.—*Rose-water* (Aqua Rosæ).—From 1 to 8 drams (4–30 c.c.).

Stronger Rose-water (Aqua Rosæ Fortior; Triple Rose-water).—From ½ to 4 drams (2–15 c.c.).

Cold Cream (Unguentum Aquæ Rosæ).—Used as an emollient and protective.

Oil of Rose (Oleum Rosæ; Ottar of Rose).—A perfume.

Confection of Rose (Confectio Rosæ).—Used as a basis for pills.

Fluidextract of Rose (Fluidextractum Rosæ).—From ½ to 1 dram (2–4 c.c.).

Syrup of Rose (Syrupus Rosæ).—One dram (4 c.c.).

Honey of Rose (Mel Rosæ).—From 1 to 2 drams (4–8

c.c.). It is slightly astringent, and is used as an application to the mouth and throat in combination with other agents.

Rosemary (Rosmarinus).—**Action and Uses.**—Rosemary is a perennial shrub (*Rosmarinus officinalis*) growing in southern Europe. It is employed in medicine only in the form of a volatile oil (oleum rosmarini). This is chiefly used to impart a pleasant odor to lotions, liniments, and ointments.

Rosin Plaster (Emplastrum Resinæ).—This consists of rosin (14 parts), lead-plaster (80 parts), and yellow wax (6 parts).

Saccharin (Benzosulphinidum).—**Action and Uses.**—Saccharin is a sweet substance obtained from coal-tar. It possesses nearly 500 times the sweetening power of cane-sugar, and is employed as a substitute for the latter in diabetes and other conditions in which sugar is forbidden. One grain will sweeten a cup of tea or coffee.

Dose, 1 to 3 grains (0.65–0.2 gm.).

Saccharum.—(See *Sugar.*)

Sage (Salvia).—**Action and Uses.**—Sage is the leaves of a perennial plant (*Salvia officinalis*) growing in most temperate countries. It contains a volatile oil and tannic acid. It is sometimes used to check night-sweats and as an astringent and stimulating gargle in sore throat.

Dose, ½ to 1 ounce (15–30 c.c.) of an infusion made by adding an ounce (30 gm.) of the leaves to a pint (0.5 L.) of boiling water.

Salicin (Salicinum).—**Action and Uses.**—Salicin is a neutral principle obtained from several species of willow (*Salix*). It occurs in white, silky needles, of a very bitter taste. It is partly converted in the body into salicylic acid, hence it has been used internally in rheumatism. While it is less irritating to the stomach than the ordinary salicylates, it is far less active.

Dose, 10 to 60 grains (0.65–4.0 gm.).

Salicylates.—The salts of salicylic acid most frequently used in medicine are ammonium salicylate, bismuth salicylate, lithium salicylate, methyl salicylate, sodium salicylate, and strontium salicylate.

In health a single moderate dose of one of the salicylates may cause no special symptoms. Large doses, however, give rise to fulness in the head, headache, ringing in the ears, deafness, perhaps dimness of vision, fall of temperature, and free sweating. Toxic doses produce, in addition, a feeble pulse, shallow respiration, paralysis, and collapse.

The salicylates are chiefly useful as antirheumatics, analgesics, and intestinal antiseptics.

Ammonium Salicylate (Ammonii Salicylas).—This salt is somewhat more agreeable to the taste and less nauseating than the sodium salt. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Bismuth Subsalicylate (Bismuthi Subsalicylas).—This is a tasteless, insoluble powder. It is used solely as an intestinal antiseptic and astringent in diarrhea. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Lithium Salicylate (Lithii Salicylas).—This salt is somewhat less irritating to the stomach than sodium salicylate, for which it is sometimes substituted. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Methyl Salicylate (Methyl Salicylas; Artificial Oil of Wintergreen).—This preparation is almost identical in its properties and actions with the natural oil of wintergreen (oil of gaultheria), which is composed almost entirely of pure methyl salicylate. It is sometimes used internally as a substitute for sodium salicylate in the treatment of rheumatism. Externally it makes an excellent application to the inflamed joints. *Dose*, 5 to 20

minims (0.3–1.2 c.c.) on sugar, in emulsion, or in capsules.

Sodium Salicylate (Sodii Salicylas).—This is the most commonly used salicylate. *Dose*, 5 to 20 grains (0.3–1.3 gm.), well diluted, after meals.

Strontium Salicylate (Strontii Salicylas).—This salt is perhaps the least irritating to the stomach of all the salicylates. *Dose*, 5 to 20 grains (0.3–1.3 gm.).

Salipyrin (Antipyrin Salicylate).—This is a combination of antipyrin and salicylic acid. It has been recommended in the treatment of rheumatism, sciatica, and influenza.

Dose, 5 to 30 grains (0.3–2.0 gm.).

Salol (Phenyl Salicylate).—**Action and Uses.**—Salol is a compound composed of salicylic acid (60 parts) and carbolic acid (40 parts), into which it is converted by the alkaline juices of the bowel. It is better tolerated by the stomach than salicylic acid or the salicylates, but its antirheumatic action is less prompt and powerful. In large doses it produces the same untoward effects as other salicylic compounds—namely, headache, dizziness, ringing in the ears, and deafness. Being converted in the bowel into two active antiseptics, it is often of service in controlling fermentation in diarrheal diseases.

Dose, 5 to 20 grains (0.3–1.3 gm.), in pill, capsule, or powder. Hard pills and tablets may resist solution and escape from the bowel unabsorbed.

Salophen.—This is a synthetic product containing about 50 per cent. of salicylic acid, which is liberated from it in the bowel. It is less active as an antirheumatic remedy than sodium salicylate, but has advantages over the latter in being tasteless and unirritating to the stomach.

Dose, 5 to 30 grains (0.3–2.0 gm.).

Saltpeter.—(See *Potassium Nitrate.*)

Sandalwood (Santal).—Action and Uses.—Sandalwood is the wood of a small tree (*Santalum album*) growing in India. It contains a volatile oil (oleum santali), in which form it is employed medicinally. Oil of sandalwood resembles copaiba in its action, and, like the latter, is used as a stimulant expectorant and a stimulant diuretic.

Dose, 5 to 20 minims (0.3–1.3 c.c.) in capsule or emulsion.

Sanguinaria (Blood-root).—Action and Uses.—Sanguinaria is the root of a perennial herb (*Sanguinaria canadensis*) growing in the woods of North America. It has been employed as an emetic and a stimulant expectorant, but it is falling into disuse. Large doses cause salivation, burning in the stomach, convulsions, and death from paralysis of respiration.

Dose.—*Fluidextract of Sanguinaria* (Fluidextractum Sanguinariæ).—From 1 to 5 minims (0.06–0.3 c.c.).

Tincture of Sanguinaria (Tinctura Sanguinariæ).—From 5 to 30 minims (0.3–2.0 c.c.).

Santonin (Santoninum).—Action and Uses.—Santonin is an alkaloid of *santonica*, or *Levant wormseed.* It is used as an anthelmintic against the round-worm. It should be followed in a few hours by a cathartic, such as calomel or castor oil. It is excreted by the kidneys and imparts to the urine a yellow color.

Overdoses cause giddiness, tremors, sweating, convulsions, and a peculiar disturbance of vision (xanthopsia) in which objects appear yellow.

Dose, ½ to 2 grains (0.03–0.13 gm.).

Troches of Santonin (Trochisci Santonini).—*Dose*, 1 troche. Each troche contains ½ grain (0.03 gm.) of santonin.

Sarsaparilla.—**Action and Uses.**—Sarsaparilla is the root of *Smilax medica* and other species of smilax, climbing evergreens growing in the forests of tropic America. It is used as a tonic and alterative, and, in the form of the compound syrup, as an agreeable vehicle.

Dose.—*Compound Decoction of Sarsaparilla* (Decoctum Sarsaparillæ Compositum).—From 1 to 4 ounces (30–120 c.c.).

Fluidextract of Sarsaparilla (Fluidextractum Sarsaparillæ).—From ½ to 1 dram (2–4 c.c.).

Compound Fluidextract of Sarsaparilla (Fluidextractum Sarsaparillæ Compositum).—From ½ to 1 dram (2–4 c.c.).

Compound Syrup of Sarsaparilla (Syrupus Sarsaparillæ Compositus).—From 1 to 4 drams (4–15 c.c.). This preparation is much used as a vehicle.

Savin (Sabina).—**Action and Uses.**—Savin is the tops of the *Juniperus sabina*, a European evergreen. Internally, in small repeated doses, it is a powerful uterine stimulant. As an external irritant, it is sometimes employed in the form of a cerate for maintaining discharges from blistered surfaces. It is a drug that must be used with caution, since overdoses produce violent gastro-intestinal inflammation and death in collapse.

Dose.—*Fluidextract of Savin* (Fluidextractum Sabinæ).—From 5 to 16 minims (0.3–1.0 c.c.).

Oil of Savin (Oleum Sabinæ).—From 3 to 6 minims (0.2–0.4 c.c.), in emulsion or capsule.

Scammony (Scammonium).—**Action and Uses.**—Scammony is an exudation from the root of an herb

(*Convolvulus scammonia*) growing in Asia. It is a drastic cathartic, resembling jalap in its action, although it is much more irritating. On account of its tendency to excite griping, it is usually combined with other milder cathartics.

Dose, 2 to 10 grains (0.13–0.65 gm.), given in emulsion.

Resin of Scammony (Resina Scammonii).—From 1 to 8 grains (0.065–0.5 gm.).

Compound Extract of Colocynth (Extractum Colocynthidis Compositum).—This contains 14 per cent. of resin of scammony. *Dose*, 5 to 20 grains (0.3–1.3 gm.) as a purgative.

Scoparius (Broom).—**Action and Uses.**—Broom is the tops of *Cystisus scoparius*, a shrub growing in western Asia and southern Europe. It is chiefly employed as a diuretic in dropsy. In large doses it acts as an emetic and cathartic. It contains two active principles —spartein and scoparin.

Dose, 5 to 20 grains (0.3–1.3 gm.) in infusion.

A *decoction* is made by adding ½ ounce of the fresh broom-tops to 1 pint of water, and boiling them down to ½ pint. *Dose*, 1 ounce (30 c.c.).

Fluidextract of Broom (Fluidextractum Scopariæ).—From 5 to 20 minims (0.3–1.2 c.c.).

Scoparin is rarely used as a diuretic. *Dose*, 1 to 10 grains (0.06–0.6 gm.). Hypodermically, ½ to 1 grain (0.03–0.065 gm.).

Spartein Sulphate.—From ⅙ to ½ grain (0.01–0.03 gm.).

Scopolamin.—Action and Uses.—This is an alkaloid obtained from the roots of *Scopolia carniolica*, growing in southern Europe. Its action resembles that of atropin. It is chiefly employed by ophthalmologists to

dilate the pupil and to paralyze the power of the eye to accommodate for distance. Its effects on the eye are less lasting than those of atropin.

Seidlitz Powder.—(See *Potassium.*)

Senecio (Ragwort).—Action and Uses.—Senecio is the entire plant of *Senecio aureus*, an herb growing in North America. It has been found useful as an emmenagogue.

Dose.—*Fluidextract of Senecio.*—From ½ to 1 dram (2–4 c.c.).

Tincture of Senecio.—From 1 to 2 drams (4–8 c.c.).

Senega.—Action and Uses.—Senega is the root of a perennial herb (*Polygala senega*) growing in the woody places of North America. It is a stimulant expectorant and a diuretic. In large doses it acts as a cathartic and emetic. Locally it is an irritant.

Dose.—*Fluidextract of Senega* (Fluidextractum Senegæ).—From 10 to 20 minims (0.6–1.2 c.c.).

Syrup of Senega (Syrupus Senegæ).—From ½ to 2 drams (2–8 c.c.).

Senna.—Action and Uses.—Senna is the dried leaves of *Cassia acutifolia* and *Cassia angustifolia*, small shrubs growing respectively in Africa and India. It is an active cathartic, but is apt to cause considerable flatulence and griping. To avoid this, it is usually given in combination with other drugs.

Dose, 20 to 60 grains (1.3–4.0 gm.).

Fluidextract of Senna (Fluidextractum Sennæ).—From 1 to 2 drams (4–8 c.c.).

Syrup of Senna (Syrupus Sennæ).—From 1 to 4 drams (4–16 c.c.).

Compound Infusion of Senna (Infusum Sennæ Compositum).—From 2 to 8 ounces (60–240 c.c.). Contains

senna, manna, and sulphate of magnesia. It is known as the "black draft."

Compound Licorice Powder (Pulvis Glycyrrhizæ Composita).—Contains 18 per cent. of powdered senna, with licorice, sulphur, sugar, and oil of fennel—½ to 2 drams (2–8 gm.).

Confection of Senna (Confectio Sennæ).—From 1 to 2 drams (4–8 gm.).

Serpentaria (Virginia Snakeroot).—**Action and Uses.**—Serpentaria is the roots of a perennial herb (*Aristolochia serpentaria*) growing in the southern United States. It is used chiefly as a bitter or stomachic. Large doses excite nausea and vomiting.

Dose.—*Fluidextract of Serpentaria* (Fluidextractum Serpentariæ).—From 10 to 30 minims (0.6–2.0 c.c.).

Tincture of Serpentaria (Tinctura Serpentariæ).—From 1 to 2 drams (4–8 c.c.).

Silver (Argentum).—The preparations of silver usually employed in medicine are the nitrate, certain organic compounds, such as protargol and argyrol, and Credé's soluble silver.

Silver Nitrate (Argenti Nitras).—**Action and Uses.**—Silver nitrate appears as heavy, transparent crystals, having an acrid metallic taste. Externally it is employed in concentrated form as a caustic to destroy small growths, like warts, and in dilute form (5 to 60 grains—0.3–4.0 gm.—to the ounce—30 c.c.) as an antiseptic and astringent in the treatment of ulcers and inflamed mucous membranes. Internally it is used as an astringent and antiseptic in gastric catarrh, gastric ulcer, and diarrhea. In gastric affections it should always be given on an empty stomach.

Dose, $\frac{1}{6}$ to $\frac{1}{2}$ grain (0.1–0.3 gm.). As an *enema*, 1 to 3 grains (0.06–0.2 gm.) to 4 ounces of water (120 c.c.).

Mitigated Caustic (Diluted Silver Nitrate; Argenti Nitras Dilutus).—Used externally as a caustic.

Lunar Caustic (Molded Silver Nitrate; Argenti Nitras Fusus).—A white pencil or cone-shaped solid, used as a caustic.

Poisoning.—Acute poisoning by silver nitrate is characterized by severe pain in the abdomen, vomiting, purging, and collapse. The vomit is white, and the stools are black. Death is sometimes preceded by delirium, convulsions, and coma.

Treatment.—Common table-salt should be given freely well diluted. This forms an insoluble and inert chlorid of silver and acts as an emetic. Large quantities of milk may also be given. External heat and stimulants are required when there is collapse.

The prolonged use of silver nitrate, even in medicinal doses, is sometimes followed by permanent slate-colored pigmentation of the skin (*argyria*) from the deposit of metallic silver.

Protargol.—This is a compound of silver with albumin containing 8 per cent. of metallic silver. It is not precipitated by the chlorids and albumins of the secretions. It is a powerful germicide, comparatively free from irritant properties. It has been found very useful in solutions of from 1 to 10 per cent. in inflammatory diseases of mucous membranes.

Argyrol.—This is a compound of silver and vegetable albumin containing 30 per cent. of the metal. It has all the advantages of protargol, and is perhaps less irritant than that compound. In solutions of from 5 to 20 per

cent. it has been used with great success in inflammations of mucous membranes.

Soluble or Colloidal Silver.—This is a soluble form of metallic silver. In the form of a 15 per cent. ointment, known as Credé's ointment, it has been found of service as a local remedy in erysipelas and various septic inflammations.

Sinapis.—(See *Mustard.*)

Sodium is a metallic element not used in medicine, but is represented by many of its salts, the action of which is similar to that of potassium, although less depressing.

Sodium Arsenate.—(See *Arsenous Acid.*)

Sodium Benzoate.—(See *Benzoin.*)

Sodium Bicarbonate (Sodii Bicarbonas).—This salt is employed as an antacid in gastric fermentation. Given before meals, it probably has the power of increasing the secretion of gastric juice. Externally, it is a useful sedative, both as a dusting-powder and in solution, in ivy-poisoning, burns, and acute inflammatory skin-diseases. *Dose*, 5 to 30 grains (0.3–2.0 gm.).

Seidlitz Powder (Pulvis Effervescens Compositus).—One set of powders.

Mixture of Rhubarb and Soda (Mistura Rhei et Sodæ).—From 1 to 2 drams (2–8 c.c.).

Troches of Sodium Bicarbonate (Trochisci Sodii Bicarbonatis).—Each contains 3 grains (0.2 gm.).

Sodium Borate.—(See *Borax.*)

Sodium Bromid.—(See *Bromids.*)

Sodium Carbonate (Sodii Carbonas; Sal Soda; Washing Soda).—This salt has the same properties as sodium bicarbonate, but it is rarely given internally on account

of its disagreeable taste and irritant action. *Dose*, 5 to 10 grains (0.3–0.65 gm.).

Sodium Chlorid (Sodii Chloridum; Common, Table, or Sea-salt).—This salt is a useful food. It furnishes the materials from which the hydrochloric acid of the gastric juice is formed. An aqueous solution of sodium chlorid corresponding in saline strength to normal blood-serum is known as *normal salt solution*. It may be prepared by adding a heaping teaspoonful of salt (6 gm.) to a quart (1 L.) of sterilized water. Normal salt solution is much used for the irrigation of cavities. Injected subcutaneously (hypodermoclysis), or intravenously (infusion), it is valuable in maintaining vascular fulness, in stimulating the heart, in diluting poisonous substances in the blood, and in promoting the secretion of the kidneys. Thus it has been found very useful in shock, collapse, hemorrhage, uremia, and sepsis. The fluid should enter the tissues at a temperature of 105° F. (40° C.), and to insure this the temperature of the water in the reservoir should be maintained at 110° F. (44° C.). The quantity of fluid injected varies from 8 ounces (235 c.c.) to 1 quart (1 L.).

Intestinal irrigation (enteroclysis) with hot normal salt solution (105°–110° F.—40°–44° C.) for half an hour or more is also a valuable means of combating shock.

In doses of from ½ to 1 ounce (15–30 gm.) common salt is sometimes used as an emetic.

A simple enema for unloading the bowel is made by adding two tablespoonfuls of salt to a pint of water.

Added to the bath, in the proportion of 1 pound to 4 gallons of water, it exerts a stimulant effect upon the skin and makes a good reaction more likely to occur.

Sodium Hydroxid (Sodii Hydroxidum; Soda; Caus-

tic Soda).—This salt is a powerful caustic, resembling caustic potash in its action.

Poisoning by soda is characterized by intense pain in the throat, gullet, and abdomen, vomiting and purging of mucous and bloody matter, and collapse.

Treatment of poisoning consists in administering weak acids, like vinegar or lemon-juice, as antidotes, in allaying irritation by demulcents, and in combating collapse by external heat and stimulants.

Sodium Iodid.—(See *Iodids.*)

Sodium Nitrite.—(See *Nitrites.*)

Sodium Phosphate (Sodii Phosphas).—This salt in small doses acts as a laxative; in large doses, as a purgative. It is also believed to have some power in stimulating the secretion of bile. It is useful in simple constipation, in chronic gastric catarrh with constipation, and in catarrhal jaundice. *Dose*, 1 to 4 drams (4–16 gm.).

Effervescent Sodium Phosphate (Sodii Phosphas Effervescens).—From 2 to 4 drams (8–16 gm.).

Sodium Salicylate.—(See *Salicylates.*)

Sodium Sulphate (Sodii Sulphas; Glauber's Salt).—This salt is an active hydragogue cathartic, producing large watery stools, often with considerable griping. It is less frequently employed than magnesium sulphate (Epsom salt), being more irritant. *Dose*, 2 to 8 drams (8–30 gm.).

Sozoiodol (Sozoiodolic Acid).—This preparation in the form of a 2 to 5 per cent. solution has been employed to some extent as an antiseptic for wounds and inflamed mucous membranes. Mixed with chalk or starch, it has also been used as a dusting-powder in place of iodoform.

Spartein.—Spartein is an alkaloid obtained from the

common broom *Cytisus scoparius*). Its action resembles that of digitalis, for which it is sometimes substituted in chronic heart-disease. It is generally prescribed in the form of spartein sulphate.

Dose, ¼ to ½ grain (0.015–0.03 gm.).

Spearmint (Mentha Viridis).—The action of spearmint is similar to that of peppermint. It is used as a carminative and flavoring agent.

Dose.—*Spearmint Water* (Aqua Menthæ Viridis).—From 1 to 8 drams (4–30 c.c.).

Oil of Spearmint (Oleum Menthæ Viridis).—From 1 to 5 minims (0.06–0.3 c.c.).

Spermaceti (Cetaceum).—Spermaceti is a fatty substance obtained from the head of the sperm-whale. It is employed to give proper consistence to ointments and cerates.

Spigelia (Pinkroot).—**Action and Uses.**—Spigelia is the root of a perennial herb (*Spigelia marilandica*) growing in the southern United States. It is a very efficient remedy for round-worms. It should be followed by a purge.

Dose.—*Fluidextract of Spigelia* (Fluidextractum Spigeliæ).—From ½ to 2 drams (2–8 c.c.).

Spirit of Nitrous Ether (Spiritus Ætheris Nitrosi; Sweet Spirit of Niter).—**Action and Uses.**—Spirit of nitrous ether is a weak alcoholic solution of ethyl nitrite. It rapidly deteriorates on exposure to light and air. It is employed as a mild diaphoretic, diuretic, and febrifuge, especially in the febrile diseases of childhood.

Dose, for a child, 5 to 20 minims (0.3–1.2 c.c.) in sweetened water; for an adult, ½ to 1 dram (2–4 c.c.).

Squill (Scilla).—**Action and Uses.**—Squill is the dried bulb of a perennial herb (*Urginia maritima*) growing on the shores of the Mediterranean Sea. It is a

cardiac stimulant, expectorant, and diuretic. In large doses it acts as an emetic.

Dose.—*Powdered Squill* (Pulvis Scillæ).—From 1 to 5 grains (0.065–0.3 gm.).

Fluidextract of Squill (Fluidextractum Scillæ).—From 1 to 5 minims (0.06–0.3 c.c.).

Syrup of Squill (Syrupus Scillæ).—From ½ to 1 dram (2–4 c.c.).

Compound Syrup of Squill (Syrupus Scillæ Compositus).—From 10 to 60 minims (0.6–4.0 c.c.).

Tincture of Squill (Tinctura Scillæ).—From 10 to 20 minims (0.6–1.2 c.c.).

Starch (Amylum).—Action and Uses.—Powdered starch is much used externally as an absorbent and protective dusting-powder in chafing. In the form of a poultice it is sometimes used to allay inflammation or to remove crusts in skin-diseases. Given as an enema, it acts as a demulcent in inflammatory conditions of the rectum. It is also given by enema as a vehicle for conveying drugs into the rectum.

The *starch poultice* is made by mixing ordinary laundry starch with cold water, and then adding boiling water in sufficient quantity to produce a thick paste. It is spread smoothly and evenly on a piece of old muslin of the desired size, leaving a margin of about one inch to turn in all around the poultice. Another layer of muslin is put over the face of the poultice and the edges are turned well under to prevent the starch escaping. Very often belladonna or laudanum is sprinkled over the surface to allay pain.

As an *enema* the starch should be prepared as for laundry use, except that it should be thin enough to pass through the syringe.

From 1 to 3 ounces of the mixture are generally employed, and to this 15 to 30 drops of laudanum are sometimes added. The enema should stand until lukewarm before injecting.

Stramonium (Jamestown Weed; Thorn-apple).—Action and Uses.—Stramonium is official as the leaves of a weed (*Datura Stramonium*) growing in waste places in most temperate regions. Its action closely resembles that of belladonna. It contains an alkaloid, *daturin*, which is the therapeutic equivalent of atropin.

Dose.—*Daturin.*—From $\frac{1}{120}$ to $\frac{1}{60}$ grain (0.0005–0.001 gm.).

Extract of Stramonium (Extractum Stramonii).—From $\frac{1}{6}$ to $\frac{1}{2}$ grain (0.01–0.032 gm.).

Fluidextract of Stramonium (Fluidextractum Stramonii).—From 1 to 2 minims (0.06–0.12 c.c.).

Tincture of Stramonium (Tinctura Stramonii).—From 10 to 20 minims (0.6–1.2 c.c.).

Ointment of Stramonium (Unguenti Stramonii).—A useful sedative in hemorrhoids.

Strontium.—The salts of strontium in common use are the bromid, iodid, and salicylate. (See *Bromids*, *Iodids*, and *Salicylates*.)

Strophanthus.—Action and Uses.—Strophanthus is the seed of a climber (*Strophanthus hispidus*) growing in the forests of tropic Africa. It contains a principle known as *strophanthin*. The action of strophanthus is much like that of digitalis. Like the latter, it stimulates the heart, slows the pulse, and increases the flow of urine. It has, however, less constricting effect upon the peripheral arteries than digitalis, and is less prone to disturb the stomach. It has no cumu-

lative effect, but, on the whole, it is less reliable than digitalis.

Dose.—*Strophanthin.*—From $\frac{1}{100}$ to $\frac{1}{50}$ grain (0.0006–0.0013 gm.).

Tincture of Strophanthus (Tinctura Strophanthi).—From 3 to 10 minims (0.2–0.6 c.c.).

Strychnin.—(See *Nux Vomica.*)

Stypticin (Cotarnin Hydrochlorate).—This is an artificial alkaloid obtained by oxidizing narcotin, one of the alkaloids of opium. It is chiefly employed to arrest uterine hemorrhage.

Dose, $\frac{1}{2}$ to 3 grains (0.03–0.2 gm.) by the mouth or hypodermically.

Sugar.—*Cane-sugar* (saccharum) is the refined sugar from sugar-cane (Saccharum officinarum). It is employed as a preservative, as a vehicle or excipient, and as a sweetening agent.

Sugar of Milk (Lactose; Saccharum Lactis).—This is sugar obtained from the whey of cow's milk. It is harder, less soluble, and less sweet than cane-sugar. It is used largely as a diluent for powders.

Fruit-sugar (Levulose).—This is a saccharine substance found in most sweet fruits, and prepared artificially from cane-sugar. It is sometimes used in diabetes as a substitute for cane-sugar.

Grape-sugar (Glucose).—A sugar found in grapes, and prepared artificially by acting on starch with sulphuric acid. It is only half as sweet as cane-sugar, but is not injurious.

Sulphonal.—Action and Uses.—This is a complex artificial compound appearing as a colorless powder without odor or taste. It is a powerful hypnotic, inducing sleep by direct action on the brain. Drowsiness,

headache, and languor occasionally follow its use. It is rather slow in its action, and should be taken one or two hours before the patient retires. If taken late in the evening, sleep may be delayed until early morning or the next day. Sulphonal has no influence over pain. While comparatively safe in single doses, its continued use for several weeks is liable to be followed by severe or even fatal poisoning. The latter is characterized by a dark-red coloration of the urine, languor, colicky pains, irregularity of the bowels, mental confusion, progressive weakness, and collapse.

Dose, 10 to 30 grains (0.65–2.0 gm.), in capsule or dry on the tongue. Its action, however, is quicker if it is given in hot milk, beef-tea, or hot water. The urine must be watched and reported should it assume a reddish tint.

Sulphur.—Sulphur is a non-metallic element, official in three forms—sulphur sublimatum (sublimed sulphur or flowers of sulphur); sulphur lotum (washed sulphur); sulphur præcipitatum (precipitated sulphur).

Sulphur is a mild laxative, alterative, and antiseptic. It imparts a disagreeable odor to the feces and perspiration. Externally it is used as an ointment in many skin-diseases. It is also employed in the form of baths and fumigations. It is excreted by the lungs and skin and all the excretions, and blackens any silver articles that may be worn by the patient. Sulphur was formerly much used for fumigating rooms and clothing, but formaldehyd, being more efficient and less injurious to colored fabrics, has largely supplanted it.

Fumigation of Sick-room after Contagious Diseases by the Use of Sulphur Fumes.—Sulphur is reliable only when its fumes are very strong and they

permeate every fiber of material and every crevice of an infected room or its furniture. Six pounds of sulphur are necessary to fumigate thoroughly an ordinary sized room. Every crevice should be tightly closed, the chimney should be blocked up, and the windows, doors, and other openings closed, either by pasting paper over the cracks or by stuffing them with cotton. All draperies which were not taken down before the case progressed should be spread out over a temporary line or on chairs, and all drawers and closets should be opened. The fumes should reach the remotest part of whatever is in the room. A tub or a large pan should be partly filled with water, and in this be placed two or three bricks or blocks of wood on which to stand a smaller pan, or the lid of a saucepan turned upside down. Into this is put the roll sulphur, which must be broken into very small pieces and saturated with alcohol or turpentine. The water in the large pan will both guard against fire and furnish moisture in the form of steam. After everything is secure and there is no possible way for the sulphur fumes to escape, the sulphur is ignited. If alcohol or turpentine is not at hand, a few red coals will ignite the sulphur. The room door is now closed, the keyhole and all the cracks of the door are stopped up, and the room is left for twenty-four hours, when it is opened and aired for twenty-four hours longer; then everything, including the walls and floors, must be washed with either corrosive-sublimate (1 : 1000) or carbolic-acid solution (1 : 20) and exposed to the action of the sun and air for a number of days.

If, when preparing the room for fumigation, a hole is bored through the middle of the top window-sash, and there is passed through this hole a piece of rope of suf-

ficient length to extend to a window below, the sick-room window can be opened from the outside at the end of the fumigation. When closing up the cracks in the sides of the window, care should be taken that they are filled in securely, so that the sulphur fumes cannot escape through them, but at the same time that the window can easily be pulled open. If one is compelled to pass through the sulphur-fumes, it can be done by holding a wet cloth over the mouth and nose.

Preparations.—*Sublimed Sulphur* (Sulphur Sublimatum).—*Dose*, 1 to 2 drams (4–8 gm.). Used as a laxative.

Precipitated Sulphur (Sulphur Præcipitatum).—*Dose*, 1 to 2 drams (4–8 gm.). It is used as a laxative.

Washed Sulphur (Sulphur Lotum).—*Dose*, 1 to 2 drams (4–8 gm.).

Sulphurated Potassa (Potassa Sulphurata).—Used externally in the form of ointments and baths in skin-diseases. Locally it is a decided irritant, and internally in large doses it is a violent corrosive poison.

Sulphur Ointment (Unguentum Sulphuris).—Used externally in various inflammatory and parasitic skin-diseases.

Sulphurated Lime (Calx Sulphurata).—*Dose*, $\frac{1}{10}$ to $\frac{1}{5}$ grain (0.006–0.013 gm.). It is used internally in pustular skin-disease. In large doses it is an irritant poison.

Sumac (Rhus Glabra).—**Action and Uses.**—Sumac is the fruit of a shrub (*Rhus glabra*) growing in waste places in North America. As it contains a large amount of tannic acid, it is an active astringent. It is chiefly employed locally as a gargle or wash in sore throat.

Dose.—*Fluid Extract of Rhus Glabra* (Extractum

Rhois Glabræ Fluidum).—It is used as a gargle in the strength of ½ dram (2 c.c.) to 1 ounce (30 c.c.) of water.

Sumbul.—Action and Uses.—Sumbul is the root of a perennial herb (*Ferula sumbul*) growing in central Asia. It is used as an antispasmodic.

Dose.—*Tincture of Sumbul* (Tinctura Sumbul).—From ½ to 2 drams (2–8 c.c.).

Fluidextract of Sumbul (Fluidextractum Sumbul).—From 10 to 60 minims (0.6–4.0 c.c.).

Extract of Sumbul (Extractum Sumbul).—From 2 to 5 grains (0.1–0.3 gm.).

Suprarenal Gland.—Action and Uses.—The suprarenal gland is a small gland situated above the kidney. Extracts of these glands have the property of causing marked constriction of the blood-vessels when applied locally or injected intravenously. This property is dependent upon a crystalline principle known as *adrenalin* (see p. 54). Internally, the dried gland itself is used as an alterative.

Dose, 3 to 5 grains (0.2–0.3 gm.) in tablets or capsules.

Sweet Spirit of Niter.—(See *Spirit of Nitrous Ether.*)

Talc (Talcum; Venetian Talc).—Talc is the silicate of magnesium. It occurs in grayish masses having a waxy luster and a greasy feel. Finely powdered, it is much used as a dusting-powder in chafing and acute inflammatory skin-diseases.

Tamarind (Tamarindus).—Action and Uses.—Tamarind is the preserved pulp of the fruit of a large tree (*Tamarindus indica*) growing in tropic countries. It is a gentle laxative.

Dose, 1 to 8 drams (4–30 gm.).

Tannin.—(See *Acids.*)

Tansy (Tanacetum).—Action and Uses.—Tansy is the leaves and tops of a perennial herb (*Tanacetum vulgare*) growing in Europe and Asia. Its active principle is a volatile oil. It has been used as an emmenagogue. Large doses of the oil cause severe abdominal pain, vomiting, convulsions, coma, and collapse.

Dose, ½ to 1 dram (2–4 c.c.) in decoction.

Oil of Tansy (Oleum Tanaceti).—From 1 to 3 minims (0.06–0.2 c.c.).

Tar (Pix Liquida).—Action and Uses.—Tar is a thick black liquid obtained from the slow burning of pine wood. It contains a large percentage of creasote. When subjected to distillation, it yields an oil—*oil of tar*. Tar is used externally as a stimulant and antiseptic in certain chronic skin-diseases. Internally it is employed as an expectorant in bronchitis.

Dose, 5 to 10 grains (0.03–0.65 gm.).

Preparations.—*Oil of Tar* (Oleum Picis Liquidæ).—From 1 to 5 minims (0.06–0.3 c.c.). It is also used externally.

Syrup of Tar (Syrupus Picis Liquidæ).—From 1 to 2 drams (4–8 c.c.).

Wine of Tar (Vinum Picis).—From 1 to 2 ounces (30–60 c.c.).

Tar Ointment (Unguentum Picis Liquidæ).—Used externally in certain skin-diseases.

Tar-water.—This preparation is made by shaking 1 part of tar with 4 parts of water frequently during twenty-four hours, decanting, and filtering. *Dose*, 1 to 4 ounces (30–120 c.c.).

Taraxacum (Dandelion).—Action and Uses.—Dandelion is a bitter tonic and hepatic stimulant.

Dose.—*Extract of Taraxacum* (Extractum Taraxaci).—From 5 to 30 grains (0.3–2.0 gm.).

Fluidextract of Taraxacum (Fluidextractum Taraxaci).—From 1 to 2 drams (4–8 c.c.).

Tartar Emetic.—(See *Antimony.*)

Tartaric Acid.—(See *Acids.*)

Terebene (Terebenum).—**Action and Uses.**—Terebene is an oily liquid obtained by acting on oil of turpentine with sulphuric acid. It is chiefly used as a stimulant expectorant in bronchitis and phthisis.

Dose, 5 to 10 minims (0.3–0.6 c.c.), in capsules, in emulsion, or on sugar.

Terpin Hydrate.—**Action and Uses.**—Terpin hydrate is a crystalline compound obtained by the interaction of oil of turpentine, alcohol, and nitric acid. It is employed as a stimulant expectorant in bronchitis.

Dose, 2 to 10 grains (0.13–0.6 gm.).

Terpinol is an oily body derived from terpin hydrate. It is used as a stimulant expectorant in bronchitis.

Dose, 5 to 15 minims (0.3–1.0 c.c.).

Tetronal.—Action and Uses.—Tetronal is employed as a hypnotic. It has no advantages over sulphonal and trional, to which, chemically, it is closely allied.

Dose, 15 to 30 grains (1–2 gm.), preferably in hot tea or hot milk.

Theobromin (Theobromina).—**Action and Uses.**—Theobromin is an alkaloid closely related to caffein, and obtained from the beans of the chocolate tree (*Theobroma cacao*). It is chiefly employed as a diuretic in dropsy resulting from heart- or kidney-disease.

Sodio-theobromin salicylate, or diuretin (see p. 113), is often preferred to the pure alkaloid on account of its greater solubility.

Dose, 5 to 10 grains (0.3–0.6 gm.).

Thiocol.—(See *Guaiacol.*)

Thiosinamin.—This is a compound produced by acting on the volatile oil of mustard with ammonia. It has been used with reputed good results, both locally and internally, to soften scar tissue.

Dose, 1 to 2 grains (0.06–0.13 gm.) hypodermically.

Thymol.—Action and Uses.—Thymol is a crystalline substance obtained from oil of thyme. It resembles in its action both carbolic and salicylic acids. It is used internally as a vermifuge and both internally and externally as an antiseptic. It has a peculiar aromatic odor which attracts flies.

Larger doses cause nausea, vomiting, deafness, lowered temperature, and green-colored urine.

Dose, as an internal antiseptic, from 1 to 5 grains (0.06–0.3 gm.); as a vermifuge, from 10 to 20 grains (0.6–1.3 gm.). It may be given in capsules, wafers, or pills.

Thyroid Extract (Thyroidin).—Action and Uses.—Thyroid extract has been found to be remarkably efficacious in myxedema, a disease dependent upon a lack of development or wasting of the thyroid gland, and characterized by mental impairment, lack of physical development, and mucoid degeneration of the tissues. It has also been used with some success in simple goiter, obesity, and certain skin-diseases. The active principle of the gland appears to be *iodothyrin*. Large doses of the drug excite restlessness, insomnia, headache, palpitation of the heart, shortness of breath, elevation of temperature, free perspiration, weakness, and loss of weight.

Dose, 1 to 5 grains (0.06–0.3 gm.).

Tragacanth (Tragacantha).—Action and Uses.—Tragacanth is a gummy exudation from a shrub (*Astragalus gummifer*) growing in western Asia. It has prop-

erties like gum-arabic or acacia. It swells up in water into a gelatinous mass, but, unlike acacia, does not dissolve in it. It is chiefly employed in pharmacy to suspend oils and resins in water.

Tricresol.—This is a mixture of cresols, compounds resembling carbolic acid in their action. Its germicidal power, however, is nearly three times greater than that of carbolic acid. In solution of from 1 : 1000 to 1 : 100 it is used as an antiseptic and disinfectant.

Trional.—Action and Uses.—The action of trional is almost identical with that of sulphonal, to which, chemically, it is closely allied. In single doses it is a fairly safe and reliable hypnotic, but its continuous use is sometimes followed by the same grave symptoms that sulphonal excites—namely, red-colored urine, headache, colicky pains, anorexia, nausea, prostration, and collapse.

Dose, 15 to 30 grains (1–2 gm.) an hour or two before retiring, and preferably in hot tea or hot milk.

Triticum (Couch-grass).—Action and Uses.—Triticum is the root of a perennial weed growing in Europe and North America. It has demulcent and diuretic properties. It is chiefly used as a sedative in inflammation of the bladder.

Dose.—*Fluidextract of Triticum* (Fluidextractum Tritici).—From ½ to 2 drams (2–8 c.c.).

Tropacocain.—Tropacocain is an alkaloid obtained from the small Java coca leaves. It has properties like cocain, but is less toxic.

Tuberculin.—This is a syrupy liquid representing the poisonous products of the tubercle bacillus preserved in glycerin. It was recommended by Koch for the cure of tuberculosis, but the results of the treatment were unfavorable. It is now rarely employed except in making

the diagnosis of tuberculosis. Injections of tuberculin into tuberculous subjects are followed by chills and a rise of temperature.

Tulley's Powder.—(See *Opium.*)

Turlington's Balsam.—(See *Benzoin.*)

Turpentine (Terebinthina).—Turpentine is a solid resinous substance obtained from several species of pine growing in the southern United States. When subjected to distillation, it yields a volatile oil—*oil of turpentine*—and a solid residue—*resin.*

Oil of Turpentine (Oleum Terebinthinæ).—**Action and Uses.**—Internally, the oil of turpentine is used as a carminative, stimulating diuretic, stimulating expectorant, intestinal antiseptic, and anthelmintic.

Externally, applied to the skin, it is a counterirritant, producing redness and a burning sensation. If allowed to remain too long, it produces vesication. A carminative action is obtained also by using the drug in fomentations or enemas. *Dose*, 5 to 20 minims (0.3–1.2 c.c.); as an *enema*, ½ ounce (15 c.c.).

For the *turpentine stupe* about 30 drops of turpentine are sprinkled over the flannel, or to 1 pint of boiling water there are added 3 teaspoonfuls of turpentine; this solution is well mixed and the flannel put in, stirring all the time. The flannel is then taken out, wrung, and applied, the turpentine being then more evenly distributed over the flannel.

For *internal use* the rectified oil is usually prescribed. Turpentine is eliminated from the body by the breath, sweat, and urine. It imparts to the urine an odor resembling that of violets. Moderate doses increase the amount of urine.

Symptoms of poisoning are a rapid and feeble pulse,

difficult breathing, dilated pupils, scanty albuminous and bloody urine, abdominal pain, nausea, vomiting, diarrhea, muscular relaxation, and unconsciousness.

Treatment consists in evacuating the stomach, in administering demulcents and anodynes, and in maintaining the body-temperature.

Resin (Resina).—Action and Uses.—Resin is employed in the form of the cerate (ceratum resinæ) as a stimulating application for indolent ulcers, and in the form of the plaster (emplastrum resinæ) for the fixation of surgical dressings.

Urethane.—This compound is made by the action of alcohol upon urea. It is a comparatively safe, but somewhat uncertain, hypnotic. It has no analgesic power.

Dose, 15 to 30 grains (1–2 gm.).

Urotropin.—This compound is produced by acting on formaldehyd with ammonia. Taken internally in moderate doses, it sterilizes the urine by giving off some of its formaldehyd. Large doses cause frequent urination, burning in the bladder, and even bloody urine. Urotropin is a valuable urinary antiseptic in chronic inflammatory diseases of the bladder.

Dose, 3 to 5 grains (0.2–0.3 gm.), well diluted.

Uva Ursi (Bearberry).—Action and Uses.—Uva ursi is the leaves of an evergreen shrub (*Arctostaphylos uva ursi*) growing in temperate regions. It contains a glucosid—*arbutin*. Uva ursi is a diuretic and stimulant to the urinary passages. Large doses impart to the urine a dark-green color. It is chiefly employed in the treatment of chronic inflammatory diseases of the bladder.

Dose, 2 to 4 drams (4–15 gm.), in infusion (1 ounce to 1 pint).

Extract of Uva Ursi (Extractum Uvæ Ursi).—From 5 to 10 grains (0.3–0.6 gm.).

Fluidextract of Uva Ursi (Fluidextractum Uvæ Ursi).—From 1 to 4 drams (4–15 c.c.).

Arbutin.—From 3 to 5 grains (0.2–0.3 gm.).

Valerian (Valeriana).—**Action and Uses.**—Valerian is the roots of a perennial herb (*Valeriana officinalis*) growing in temperate regions. It contains a volatile oil and valerianic acid. It is chiefly useful as an antispasmodic in nervous excitement and hysteria.

Dose.—*Fluidextract of Valerian* (Fluidextractum Valerianæ).—From ½ to 1 dram (2–4 c.c.).

Tincture of Valerian (Tinctura Valerianæ).—From 1 to 4 drams (4–15 c.c.).

Ammoniated Tincture of Valerian (Tinctura Valerianæ Ammoniata).—From ½ to 1 dram (2–4 c.c.).

Zinc Valerate (Zinci Valeras).—From ½ to 3 grains (0.03–0.2 gm.), in pill or capsule.

Iron Valerate (Ferri Valeras).—From ½ to 3 grains (0.03–0.2 gm.).

Quinin Valerate (Quininæ Valeras).—From 1 to 3 grains (0.065–0.2 gm.).

Ammonium Valerate (Ammonii Valeras).—From 2 to 10 grains (0.13–0.6 gm.).

Veratrin (Veratrina).—**Action and Uses.**—Veratrina is an alkaloid obtained from an herb (*Asagræa officinalis*) growing in Mexico. Applied externally it is an irritant, causing tingling and burning and then numbness and coldness. Inhaled, it produces violent sneezing and cough, and applied to the eye, severe inflammation. Internally large doses cause burning pain, vomiting, purging, tremors, prostration, and collapse.

Veratrin is not used internally. In the form of the

ointment or oleate it is occasionally employed as a local remedy in neuralgia. If used too freely, there is danger of poisoning through the absorption of the drug. When used on the face, great care must be exercised to prevent it from entering the eye.

Preparations.—*Oleate of Veratrin* (Oleatum Veratrinæ).—Contains 2 per cent. of the alkaloid.

Ointment of Veratrin (Unguentum Veratrinæ).—Contains 4 per cent. of the alkaloid.

Veratrum (Veratrum Viride; Hellebore).—**Action and Uses.**—Veratrum is the root of a large perennial herb (*Veratrum viride* or *Veratrum album*) growing in North America. It contains several alkaloids, the chief of which appear to be jervin and veratroidin.

Veratrum, like aconite, is a powerful heart depressant. It is also in an indirect way a diaphoretic and an antipyretic.

In *small doses* veratrum reduces the force of the pulse without affecting its rate, but later it becomes very slow, soft, and compressible, the slightest exertion rendering it rapid, feeble, and sometimes imperceptible. There may also be nausea, vomiting, and muscular weakness and relaxation.

After *large doses* these symptoms are exaggerated. The skin becomes cold and clammy; there is persistent vomiting; and extreme muscular weakness, a running pulse, giddiness, loss of vision, and partial unconsciousness develop.

The **treatment of poisoning** is similar to that for aconite. Emetics, external heat to all parts of the body, and alcoholic stimulants are indicated. The recumbent position should be maintained.

Preparations.—*Fluidextract of Veratrum* (Fluidex-

tractum Veratri).—From 1 to 4 minims (0.06–0.26 c.c.).

Tincture of Veratrum (Tinctura Veratri).—From 1 to 8 minims (0.06–0.5 c.c.).

Norwood's tincture of veratrum is a saturated tincture and is unofficial. The *dose* is 5 minims (0.3 c.c.), usually increased by 1 minim until the pulse is reduced to 70.

Medicinal doses of veratrum may cause dryness of the mouth and throat, restlessness, nausea, and dizziness. The pulse must be carefully watched, and not be allowed to fall below 65.

Viburnum Prunifolium (Black Haw).—**Action and Uses.**—Viburnum prunifolium is the bark of a tall shrub (*Viburnum prunifolium*) growing in North America. It acts as a uterine and ovarian sedative. It is useful in dysmenorrhea and threatened abortion.

Dose.—*Fluidextract of Viburnum* (Fluidextractum Viburni Prunifolii).—From ½ to 2 drams (2–8 c.c.).

Vinegar (Acetum).—**Action and Uses.**—Vinegar is dilute acetic acid, obtained by the fermentation of juices of fruit or infusions of grain.

Vinegar is used as a fomentation in sprains, as a lotion in cases of headache, in bathing-water to cool the skin and reduce fever, and as an astringent in arresting hemorrhage from the nose, womb, etc. Its vapor is inhaled for the relief of vomiting after anesthesia. It is also used in enema for the relief of seat-worms.

Dose, 1 to 4 drams (4–15 c.c.). For an enema, 1 part to 3 parts of water.

Warburg's Tincture.—Action and Uses.—Warburg's tincture is a preparation containing a large number of ingredients, the chief of which are quinin, rhubarb,

aloes, angelica seed, cubeb, fennel, myrrh, and camphor. It is a powerful diaphoretic, especially useful in severe malaria.

Dose, ½ ounce (15 c.c.), undiluted. The patient should be well covered after its administration and drinks withheld.

Water (Aqua).—**Action and Uses.**—*Internally*, hot water is a diuretic, diaphoretic, diluent, and sedative to the stomach. Warm water is an emetic.

The power of heat to stimulate and contract the blood-vessels makes the hot douche very useful in uterine hemorrhage. It also helps to compensate for the loss of heat resulting from the hemorrhage, and especially from the shock.

Externally, in the form of baths, packs, fomentations, and douches, hot water relieves inflammation and pain and acts as a diaphoretic.

Cold water, applied *externally* in the form of pack, bath, poultice, fomentation, or douche, relieves pain, inflammation, sleeplessness, and delirium, and reduces fever.

Internally, it relieves thirst, and is given in fevers to flush out the kidneys and to aid in the elimination of the worn-out material generated in the body by the fever. A cup of cold water taken daily before breakfast often relieves constipation.

Ice and very hot water (temperature 120° to 144° F.) are also used to check hemorrhage.

White Oak (Quercus Alba).—**Action and Uses.**—White oak is the bark of a large tree (*Quercus alba*) growing in North America. It contains a large amount of tannic acid, and is used locally as an astringent. It slightly stains the clothing.

It is generally employed in the form of a decoction,

made by boiling 1 ounce (30 gm.) of the bark in 1 pint (0.5 L.) of water.

Wild Cherry (Prunus Virginiana).—**Action and Uses.**—Wild cherry is the bark of a large tree (*Prunus serotina*) growing in North America. It contains tannic acid, a bitter principle, and a very small amount of prussic acid. It is employed as a stomachic, tonic, and agreeable vehicle for unpalatable drugs.

Dose.—*Fluidextract of Wild Cherry* (Fluidextractum Pruni Virginianæ).—From ½ to 1 dram (2–4 c.c.).

Infusion of Wild Cherry (Infusum Pruni Virginianæ).—From 4 to 8 drams (15–30 c.c.).

Syrup of Wild Cherry (Syrupus Pruni Virginianæ).—From 1 to 4 drams (4–15 c.c.).

Wintergreen.—(See *Gaultheria.*)

Witch Hazel.—(See *Hamamelis.*)

Wormseed.—(See *Chenopodium.*)

Xeroform (Tribromphenol-bismuth).—This is a yellowish, odorless, insoluble powder. It has been used in place of iodoform as an antiseptic and sedative dusting-powder in the treatment of wounds, ulcers, and burns.

Yerba Santa.—(See *Eriodictyon.*)

Zea.—(See *Corn-silk.*)

Zinc (Zincum).—**Action and Uses.**—Zinc is not used in medicine in its metallic state, but in the form of one of its salts, their action being similar to those of copper, but less powerful.

Preparations.—*Zinc Acetate* (Zinci Acetas).—Used locally as an astringent in solution of 1 or 2 grains (0.06–0.13 gm.) to 1 ounce (30 c.c.) of distilled water.

Precipitated Zinc Carbonate (Zinci Carbonas Præcipitatus).—Used externally as a protective.

Zinc Chlorid (Zinci Chloridum).—Used locally as an antiseptic, disinfectant, and escharotic.

Solution of Zinc Chlorid (Liquor Zinci Chloridi).—An antiseptic and disinfectant. It is sometimes called Burnett's disinfecting fluid. It contains 200 grains (13 gm.) to the ounce (30 c.c.).

Zinc Oxid (Zinci Oxidum).—It is used internally and externally. Internally, it is employed as an antispasmodic and astringent. Externally, it is extensively used as a mild astringent and protective in burns, scalds, chafing, etc. *Dose*, 1 to 5 grains (0.065–0.32 gm.).

Zinc Ointment (Unguentum Zinci Oxidi).—Used externally.

Zinc Phosphid (Zinci Phosphidum).—From $\frac{1}{40}$ to $\frac{1}{20}$ grain (0.0016–0.003 gm.). Its action is the same as that of phosphorus. It is irritating to the stomach.

Zinc Sulphate (Zinci Sulphas).—Used as an astringent and emetic. *Dose*, as an astringent, 1 to 2 grains (0.065–0.13 gm.); as an emetic, 10 to 30 grains (0.65–2.0 gm.). Its action is rapid, causing but little subsequent nausea and depression.

Zinc Valerate (Zinci Valeras).—Used as a nerve-sedative. *Dose*, $\frac{1}{2}$ to 1 grain (0.03–0.065 gm.).

Zinc Sulphocarbolate (Zinci Sulphocarbolas).—Used internally and externally as an antiseptic. *Dose*, 2 to 3 grains (0.1–0.2 gm.).

Zingiber.—(See *Ginger*.)

PART III.

POISON EMERGENCIES; MINERAL-WATERS; WEIGHTS AND MEASURES; DOSE-LIST; GLOSSARY, ETC.

POISON EMERGENCIES.

In cases of poisoning the nurse is more often at hand than the physician, and for this reason it is of the utmost importance that she should know how to act intelligently, as a few moments' delay may prove fatal, and prompt action may prevent the corrosive action of certain agents or the absorption of a powerful dose. Just what to do in these cases is of as much importance as most surgical emergencies, and, next to the proper antidote, promptness is the essential feature.

Poison Defined.—A poison is a substance which, introduced into the body through the alimentary canal or any other avenue of the body, occasions in a healthy person disease or death.

Classification and Action of Poisons.—Poisons are divided into two classes—irritants and narcotics. The *irritant* poisons act on the stomach and bowels, and the symptoms of all such poisons are generally the same. Coming in contact with the lips, mouth, throat, and stomach, they produce a burning sensation and give rise to vomiting and pain in the stomach and abdomen, the pain being increased upon pressure and by purging.

The effects of the poisons are chiefly upon these organs, which they irritate and influence.

Many substances in this class possess corrosive properties, such as the strong mineral acids, caustic alkalies, and corrosive sublimate. These, in the act of swallowing, excoriate the parts they reach, and cause a burning sensation extending from the mouth down to the stomach, with symptoms of collapse. Some irritants, such as arsenic and carbonate of lead, do not possess corrosive action, and are called pure irritants. Symptoms from corrosive poisoning are manifested immediately, because contact causes destruction of the part. With purely irritant poisons the symptoms manifest themselves slowly: from half an hour to an hour elapses between the swallowing of the substance and the appearance of the symptoms, and on the appearance of the symptoms one can distinguish between corrosive-sublimate (corrosive) and arsenic (irritant) poisoning. An examination of the mouth will aid in deciding the question, as the corrosive substance will show its action on the mouth; though, on the other hand, corrosive poisons, through dilution with water, may act simply as irritants. After all irritant poisons demulcent drinks, such as flax-seed tea, white of eggs, glycerin, sweet oil, starch-water, or warm milk, should be given to soothe the inflamed mucous membrane. *Narcotic* poisons act upon the nerve-centers and the nervous system, generally producing headache, giddiness, numbness, stupor and paralysis, and in some instances convulsions and death. They have not the burning taste of irritants, and rarely give rise to vomiting and purging. If these symptoms occur, they are generally due to the form or quantity in which the substance was taken, and the mechanical effect on the stomach thereby

produced, or to the combination with some irritating element, such as alcohol. The pure narcotics do not irritate or influence the stomach and bowels. In narcotic poisoning emetics are given, providing the drug was taken by mouth, to prevent any poison remaining from being absorbed, though the treatmeat is usually directed to overcome the systemic effects.

What to Do in Cases of Poisoning.—The first thing to do in all cases of poisoning is to ascertain what kind of poison has been taken, either from the symptoms produced or from the vomited matter, if there is any. If the poison is not known, it is perhaps best to give an emetic or a hypodermic injection of apomorphin. If considerable time has elapsed since the poison was taken and there is evidence of absorption, nothing will be gained by the use of emetics. *Vomiting* may be induced by giving mustard and warm water, salt and warm water, tepid oil and water (a tablespoonful to a cup of water), warm water, or by running the finger down the throat or tickling the throat with a feather. Vomiting is generally easier if the stomach is full of food or of fluid. Should the stomach be empty, a quantity of fluid should be given before the emetic.

When emetics are administered, they should be given quickly and not more than half a pint at a time, or the walls of the stomach may become paralyzed through overdistention. After vomiting, the patient should drink plenty of milk or water, and the bowels should be cleared in case the poison has entered the intestine. The antidote—a remedy to counteract the effect of the poison—is then given. If the poison has been absorbed, medicines are given to counteract its effect on the respiration or the circulation.

It seems a wise provision of nature that she has given to many of these dangerous agents their own distinctive odors, thereby aiding us to detect their presence. In this class may be mentioned opium (laudanum), prussic acid, phosphorus, alcohol, chloroform, carbolic acid, ammonia, camphor.

The agents commonly met with in acute poisoning are carbolic acid, arsenic (principally in the form of Paris green), alcohol, opium, strychnin, belladonna, chloral, atropin, ammonia, tincture of iodin, and corrosive sublimate. All these substances, excepting Paris green, are much used in medicine. Paris green, carbolic acid, and opium in some one of its forms are often used with suicidal intent; the others are generally taken or administered accidentally.

In these emergencies the nurse must keep perfectly calm; she should think what has happened and what should be done, and then do it quietly. If she gets excited and loses her presence of mind, the life of the patient may be lost. When notifying the physician or surgeon, she should send a *written*, not a verbal, message, and should state clearly what has happened, so that he will fully understand and come prepared; he should also be informed of what is being done by the nurse.

Poisons and their Antidotes.

A few of the most common poisons and their *antidotes* are the following:

Acetanilid, Antipyrin, or Phenacetin.—Heat; stimulants; oxygen inhalations.

Aconite.—External heat; recumbent position, with head lower than feet; avoid emetics; empty stomach

with tube or pump; stimulants,—ether, alcohol, digitalis,—preferably given hypodermically.

Ammonia.—Neutralization with vinegar or lemon-juice; demulcents, such as egg-albumen or oil; warm application over the stomach.

Arsenic.—Hydroxid of iron as the antidote (see *Iron*); washing out the stomach; demulcents—oil, white of egg, or milk; opium for pain.

Atropin or Belladonna.—Tannic acid as antidote; evacuation of the stomach; catheterization; alternate hot and cold douches; artificial respiration; stimulants—caffein, strychnin, and ammonia.

Cantharides.—Evacuation of the stomach by stomach-pump or emetic; mucilaginous drinks; opium for relief of pain; no oils, as they increase the solubility of cantharidin and the dangers arising from its absorption.

Carbolic Acid.—Dilute alcohol or a solution of Epsom salt as an antidote; evacuation of the stomach by means of the tube; mucilaginous drinks; warm applications to abdomen; stimulants for collapse.

Carbonic-acid Gas (Carbon Dioxid).—Removal of the patient from the room; artificial respiration; oxygen inhalations; cold affusions; heat to feet; friction of the surface.

Caustic Potash or Caustic Soda.—Same treatment as in ammonia poisoning.

Chloral.—Emetic; recumbent position with head lower than feet; external heat; stimulants—alcohol, ether, camphor—hypodermically; enemas of black coffee; artificial respiration.

Coal-gas (Carbon Monoxid).—Removal of patient from room; artificial respiration; oxygen inhalations; cold affusions; heat to feet; friction of surface.

Corrosive Sublimate (Mercuric Chlorid; Bichlorid of Mercury).—White of egg; evacuation of the stomach; external heat; stimulants.

Digitalis.—Tannic acid; emetics or stomach-pump; horizontal position; external heat.

Hydrochloric Acid.—Chalk, magnesia, whitewash, sodium bicarbonate, or soap as an antidote; white of egg or oil as a demulcent; external heat; stimulants, if necessary.

Iodin.—Flour or starch and water as antidote; emetic; external heat; stimulants hypodermically.

Lead.—Epsom salt in solution as antidote; emetic or stomach-pump; mucilaginous or albuminous drinks; external heat.

Morphin or Opium.—Evacuation of stomach by copper sulphate, by injection of apomorphin (gr. $\frac{1}{8}$), or stomach-pump; tannic acid freely or dilute solution of potassium permanganate as chemic antidote; atropin and strychnin hypodermically as physiologic antidotes; enemas of black coffee; keeping patient awake by flicking with wet towel, alternate hot and cold douches, walking him; artificial respiration; external heat.

Mushrooms.—Emetic; purgative; external heat; atropin hypodermically; hypodermoclysis.

Nitric Acid.—Same treatment as in hydrochloric-acid poisoning.

Oxalic Acid.—Chalk or lime scraped from a wall; demulcents; warm application to abdomen; stimulants.

Paris Green.—Same treatment as in arsenic poisoning.

Phosphorus.—Copper sulphate as an emetic; a weak solution of potassium permanganate as an antidote; saline

purge; hot applications to abdomen. No fats or oils to be given, as they aid absorption.

Strychnin or Nux Vomica.—Tannic acid as chemic antidote, evacuation of the stomach while the patient is under the influence of an anesthetic; but not otherwise, since the excitement incident to passing the stomach-tube is liable to excite a fatal spasm; chloral and potassium bromid by mouth or rectum, and inhalations of amyl nitrite to allay convulsions.

Sulphuric Acid.—Same treatment as in hydrochloric-acid poisoning.

Bites of Rabid Animals.—A poisoned bite by a mad dog or by a serpent should be treated by having the poison sucked out of the wound (unless there is an abrasion on the nurse's lip), and the wound afterward washed with plain warm water. The patient must be taken at once to a physician, who will cauterize the wound. The patient must be given stimulants in moderate quantities to sustain the system. The state of the pulse must be taken as a guide to indicate when the proper amount of stimulation has been reached.

Emetics.

Apomorphin.—Apomorphin is given subcutaneously, and is employed when a rapid action is necessary, especially when the stomach is inflamed and apt to be injured by irritant emetics. It is especially indicated when patients are unwilling or unable to swallow, as in insanity, lockjaw, and strychnin-poisoning. The emetic action occurs in from five to fifteen minutes. *Dose* for an adult, $\frac{1}{10}$ to $\frac{1}{6}$ grain (0.006–0.01 gm.).

Ipecac.—As an emetic, ipecac is slow and mild in its

action, and is given when a speedy action is not required. On account of its gentle action, it is preferred for old, feeble, and very young patients. Generally it is given in the form of powder, or it may be given as wine of ipecac. *Dose* for adults, from 15 to 20 grains (1.0–1.3 gm.), given every ten or fifteen minutes until vomiting occurs.

Wine of Ipecac.—*Dose*, ½ ounce (15 c.c.). Large drafts of tepid water taken as soon as nausea begins will hasten the emetic action.

Mustard.—When other emetics are not at hand, mustard is employed in narcotic poisoning. It should not be used when the poison is of such a nature as to produce inflammation of the stomach. One teaspoonful of mustard may be given in a teacupful of tepid water, and repeated once in ten minutes if necessary.

Sulphate of copper is a rapidly acting emetic; it is also an irritant, and for this reason the dose should not be repeated if vomiting does not occur, but mustard, sulphate of zinc, or large drafts of tepid water may be given in its place. It is rarely employed as an emetic, except in cases of phosphorus-poisoning, when it also acts as the chemic antidote. *Dose*, 5 to 10 grains (0.3–0.6 gm.); for a child, 1 to 5 grains (0.06–0.3 gm.).

Sulphate of Zinc.—*Dose*, 10 to 30 grains (0.6–2.0 gm.), repeated in fifteen minutes if necessary. Its action is rapid and prompt, and it causes very little depression and nausea.

Tartar emetic is rarely used in poisoning, on account of its slow action. *Dose*, ½ to 1 grain (0.03–0.06 gm.).

In poisoning with corrosive substances, such as concentrated mineral acids and caustic alkalies, emetics are contraindicated.

Demulcents.

Demulcents play an important part in the treatment of irritant poisons. Demulcents are substances which soothe the mucous membranes, and they are generally of a mucilaginous character. Those in ordinary use are linseed tea, starch, bland oils, glycerin, white of egg, gelatin, etc. The chief action is a mechanical one in forming a smooth, soft coating for an inflamed mucous membrane.

Oils should never be selected as demulcents in poisoning by phosphorus or cantharides, since they favor the absorption of these drugs by dissolving them.

MINERAL WATERS.

Alkaline waters contain sodium carbonate and bicarbonate in comparatively large amounts. These waters produce their best effects in chronic gastric catarrh, especially with hyperacidity and catarrhal inflammation of the mucous membrane of the biliary passages; good results have been obtained also in acute catarrhal nephritis, lithemia, gout, and chronic rheumatism.

Carbonic-acid waters owe their potency to the presence of carbonic-acid gas. Many varieties of water may be found impregnated with this gas, the presence of which possibly increases the diuretic effects of the water. Fever-patients find these waters very agreeable. They act as a sedative to the mucous membrane of the stomach, and when taken cold and in sips relieve nausea and tend to check vomiting. Carbonic-acid water added to milk is admirably received by some patients with irritable stomach, and occasionally milk will be accepted in this form when it is absolutely refused in the pure state.

Another very popular use to which these waters are put is in diluting wines.

Chalybeate waters are those holding in solution one or more of the iron compounds, most frequently ferrous bicarbonate and ferrous oxid. The ordinary indications for the use of iron are met by employing waters of this class. They are often useful in anemia.

Purgative waters usually owe their properties to sodium sulphate and magnesium sulphate. When a gentle saline laxative is indicated, these waters often give better results than either Epsom or Glauber's salt, and are, therefore, of greater service. In congestion of the liver, chronic gastric catarrh, jaundice, lithemia, and gout, the regular use of waters of this class, properly selected and administered, often yields excellent results.

Saline waters contain common salt in solution, also small quantities of other chlorids, of the alkalies, and of alkaline earths. This saline matter stimulates the secretions of the stomach and bowel and favors absorption. Such waters are sometimes of service in catarrh of the stomach and bowels and in constipation.

Saline waters charged with carbonic-acid gas, being more palatable than the still water, should be given the preference. The best results are usually obtained by administering the water hot and early in the morning, before breakfast.

Sulphuretted waters owe their virtues to the presence of sulphuretted hydrogen and the sulphid of sodium, potassium, or magnesium. When taken internally, they augment peristalsis and perspiration. Frequently sulphur springs are used as baths, and with good results, especially in chronic skin-affections (such as eczema), in rheumatism, and in gout. The waters are useful in con-

stipation, and are asserted to have produced good results in cases of chronic bronchitis and phthisis. In all these diseases they are administered internally, and used externally as baths.

Calcareous waters contain carbonate and sulphate of lime and carbonate of magnesium as their chief constituents. Taken internally, these waters have an antacid and slightly astringent action, and exert also a sedative effect upon the mucous membrane of the digestive tract. They have been found of some service in dyspepsia, especially when there is acidity of the stomach and diarrhea. They are also said to be useful in gouty conditions and in gall-stone disease.

Arsenical Waters.—These are waters containing arsenic. The latter, however, is rarely the sole ingredient, iron or saline matter being present also in various proportions. As these waters are liable to cause digestive disturbances, they are generally ordered with meals, and, at first, in small doses. They have been found useful in anemia, chronic malaria, and certain skin diseases.

WEIGHTS AND MEASURES.

Metric System.—The French metric system of weights and measures has during the past few years replaced the troy or apothecaries' weights and measures to such an extent that it is necessary for all nurses to become familiar with it.

Nurses who accustom themselves to the use of the metric system will find it much simpler and more convenient than the old. It is much used by physicians, and there is very little doubt that at some time in the near future its use in every training-school will become compulsory.

In studying this system it is a good plan to think of our United States currency, which is a metric currency. As one dollar is equal to 10 dimes, 100 cents, or 1000 mills, so is one gram equal to 10 decigrams, 100 centigrams, or 1000 milligrams.

It is not necessary to go deeply into the subject, as in the measuring and weighing of medicines the U. S. Pharmacopœia uses but two measures—the cubic centimeter and the gram. These measures are the ones that most concern us.

The gram is the measure of weight, the cubic centimeter the measure of fluids. 1 gram equals 15 grains; it also equals 1 cubic centimeter (15 minims), which is the volume of 1 gram of distilled water.

The liter equals 1 quart.

Comparative Values of Apothecaries' and Metric Fluid Measures.

$\frac{1}{1000}$ liter	= 1 cubic centimeter (c.c.).
1 c.c.	= 15 minims.
4 c.c.	= 1 fluid dram.
30 c.c.	= 1 fluid ounce.
480 c.c.	= 1 fluid pint.
960 c.c. { nearly a liter }	= 1 fluid quart.

Household Measures.

1 teaspoonful	= i ʒ =	4 c.c.
1 dessertspoonful	= ii ʒ =	8 c.c.
1 tablespoonful	= iv ʒ =	16 c.c.
1 wineglassful	= ii ℥ =	60 c.c.
1 cupful	= iv ℥ =	120 c.c.
1 tumblerful	= viii ℥ =	240 c.c.

Measures of Weight.

1 gram	=	15 grains.			
4 grams	=	60 grains	=	1 dram.	
30 "	=	480 "	=	1 ounce.	
500 "	=	5760 "	=	1 pound.	

To obtain the equivalents for fractional parts of a grain, one must remember that the equivalent of 1 grain is 65 milligrams = 0.065 gm. Consequently, ½ grain is 0.033 gm. or 33 milligrams. Example:

½ grain = 0.033 gm.
¼ " = 0.016 gm.
⅛ " = 0.008 gm.

Comparative Temperatures.

36°	Centigrade	96.8°	Fahrenheit.
37°	"	98.6°	"
38°	"	100.4°	"
39°	"	102.2°	"
40°	"	104°	"
41°	"	105.8°	"
42°	"	107.6°	"

ANTISEPTIC SOLUTIONS[1] (E. Q. THORNTON, M. D.).

Drug.	Commercial form.	Solution.	Strength.	Per cent.
Boric Acid	Powder.	Two tablespoonsful to a pint.	1 : 33	3
Calcium Chlorid . . .	Masses.	Two teaspoonsful to a pint.	1 : 50	2
Carbolic Acid	Liquid.	Six teaspoonsful to a pint.	1 : 20	5
Corrosive Chlorid of Mercury (corrosive sublimate)	Crystals.	Seven and a half grains to a pint.	1 : 1000	0.1
Creolin	Liquid.	Two and a half teaspoonsful to a pint.	1 : 50	2
Lysol	Liquid.	Two and a half teaspoonsful to a pint.	1 : 50	2
Potassium Permanganate	Crystals.	Half a teaspoonful to a pint.	1 : 250	0.4
Solution of Hydrogen Dioxid	Liquid.	Eight tablespoonsful to a pint.	1 : 4	25
Thymol	Crystals.	Five grains to a pint.	1 : 1500	.07
Zinc Chlorid	Crystals.	Two teaspoonsful to a pint.	1 : 50	2

[1] These antiseptic solutions are of ordinary strengths, and are intended only for local application. They may be prepared with either hot or cold (preferably distilled) water. To *decrease* the strength of either solution the quantity of water must be *increased;* for example, if a 1 : 2000 corrosive-sublimate solution is required, the proportion would be 7½ gr. to the *quart.*

TABLE SHOWING THE NUMBER OF DROPS IN A FLUIDRACHM OF VARIOUS LIQUIDS; ALSO THE WEIGHT OF ONE FLUIDRACHM IN GRAINS.

Liquid.	Drops in f℥j (Mlx).	Weight of f℥j in grains.	Liquid.	Drops in f℥j (Mlx).	Weight of f℥j in grains.
Acetum Opii	90	61	Liquor Iodi Compos.	63	59
" Scillæ	68	57	" Potassæ	62	58
Acid, Acetic	108	58	" Zinci Chloridi	89	88
" Acetic, Dil.	68	55	Oleoresin Aspidii	130	52
" Carbolic	111	59	" Capsici	120	51
" Hydrochloric	70	65	" Cubebæ	123	52
" Hydrocyanic	45	54	Oleum Anisi	119	54
" Lactic	111	66	" Bergamottæ	130	46
" Nitric	102	77	" Cari	132	50
" Nitro-hydrochlor.	76	66	" Juniperi	148	49
" Phosphor. Dil.	59	57	" Limonis	129	47
" Sulphuric	128	101	" Ricini	77	51½
" Sulph. Aromat.	146	53	" Rosæ	132	47
" Sulph. Dil.	60	58½	" Terebinth.	136	45½
" Sulphurosum	59	55	" Tiglii	104	50
Æther Fortior	176	39	Spiritus Ætheris Comp.	148	45
Alcohol	146	44	" Ætheris Nitrosi	146	47
Aqua	60	55	" Camphoræ	143	47
" Destillata	60	53½	Syrupus Acaciæ	44	73
Bals. Peruvian	101	60	" Ferri Iod.	65	77
Bromin	250	165	" Scillæ	75	74
Chloroform, Pur.	250	80	" Comp.	102	70
Copaiba	110	51	" Senegæ	106	70
Creasote	122	56½	" Simplex	65	72
Fl. Extractum Belladon.	156	57	Tinctura Aconiti	146	46
" " Buchu	130	47½	" Belladonnæ	137	53
" " Digitalis.	134	62	" Benzoini Comp.	148	48
" " Ergotæ	133	60	" Cantharidis	131	51
" " Ipecac.	120	60	" Digitalis	128	53
" " Rhei	158	61	" Ferri Chlor.	150	53
" " Senegæ	137	62	" Iodi.	148	47
" " Valerianæ	150	49	" Opii	130	53
" " Zingib.	142	48	" Opii Camph.	130	52
Glycerin	67	68	" Opii Deodor.	110	54
Hydrargyrum	150	760	Vinum Colchici Rad.	107	55
Liquor Acidi Arsenosi	57	55	" Colchici Sem.	111	54
" Ferri Chloridi	71	72	" Opii	100	55

LIST OF HYPODERMATIC TABLETS.

Apomorphin Hydrochlorid	gr. $\frac{1}{10}$	Morphin Sulphate	gr. $\frac{1}{2}$
Apomorphin Hydrochlorid	gr. $\frac{1}{8}$	Morphin Sulphate	gr. $\frac{1}{4}$
Atropin Sulphate	gr. $\frac{1}{100}$	Morphin Sulphate }	gr. $\frac{1}{8}$
Atropin Sulphate	gr. $\frac{1}{100}$	Atropin Sulphate }	gr. $\frac{1}{200}$
Atropin Sulphate	gr. $\frac{1}{60}$	Morphin Sulphate }	gr. $\frac{1}{4}$
Caffein and Sodium Benzoate	gr. 1	Atropin Sulphate }	gr. $\frac{1}{100}$
Cocain Hydrochlorid	gr. $\frac{1}{8}$	Physostigmin Salicylate	gr. $\frac{1}{60}$
Cocain Hydrochlorid	gr. $\frac{1}{4}$	Picrotoxin	gr. $\frac{1}{60}$
Digitalin	gr. $\frac{1}{100}$	Pilocarpin Hydrochlorid	gr. $\frac{1}{8}$
Digitalin	gr. $\frac{1}{60}$	Pilocarpin Hydrochlorid	gr. $\frac{1}{4}$
Hyoscin Hydrobromid	gr. $\frac{1}{100}$	Strychnin Sulphate	gr. $\frac{1}{100}$
Hyoscyamin Sulphate	gr. $\frac{1}{100}$	Strychnin Sulphate	gr. $\frac{1}{60}$
Morphin Sulphate	gr. $\frac{1}{8}$	Strychnin Sulphate	gr. $\frac{1}{40}$

TABLE FOR CALCULATING THE DATE OF CONFINEMENT.

Jan.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Oct.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	Nov.
Feb.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28				
Nov.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5				Dec.
Mar.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Dec.	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	Jan.
April.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Jan.	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4		Feb.
May.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Feb.	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	Mar.
June.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Mar.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6		April.
July.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
April.	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	May.
Aug.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
May.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	June.
Sept.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
June.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7		July.
Oct.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
July.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	Aug.
Nov.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Aug.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6		Sept.
Dec.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Sept.	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	Oct.

Supposing the upper figure in each pair of horizontal lines to represent the first day of the last menstrual period, the figure beneath it, with the month designated in the margin, will show the probable date of confinement.

DOSE-LIST.

THE doses given in this list are for *adults*; for *children*, Dr. Young's rule will be found most convenient: Add 12 to the age, and divide the result by the age to get the denominator of the fraction, the numerator of which is 1. Thus, for a child four years old, $4 + 12 = 16 \div 4 = \frac{1}{4}$, the dose being one-fourth of that for an adult. Of *powerful narcotics* scarcely more than *one-half* this proportion should be used. Of *mild cathartics* two or even three times the proportion may be employed. For *hypodermatic injection* the dose should be *one-half* of that used by the mouth; by *rectum* the dose should be increased to *twice* that administered by the mouth.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Acetanilid.	Acetanilidum.	Antifebrin.	5–10	. .	. .	. .	0.3–0.6 gm.
Acid:							
acetic, diluted.	Acidum aceticum dilutum.		. .	. .	½–1	. .	2–4 c.c.
arsenous.	arsenosum.	White arsenic.	$\frac{1}{10}$–$\frac{1}{20}$	. .	. .	. .	0.0016–0.003 gm.
benzoic.	benzoicum.		10–40	. .	. .	. .	0.6–2.5 gm.
boric.	boricum.	Boracic acid.	2–15	. .	. .	. .	0.13–1.0 gm.
camphoric.	camphoricum.		5–20	. .	. .	. .	0.3–1.3 gm.
carbolic.	carbolicum.	Phenol, Phenic acid.	. .	. .	. .	½–2	0.03–0.13 c.c.
citric.	citricum.		5–15	. .	. .	. .	0.3–1.0 gm.
gallic.	gallicum.		5–20	. .	. .	. .	0.3–1.3 gm.
hydrochloric.	hydrochloricum.	Muriatic acid.	. .	. .	. .	3–6	0.2–0.4 c.c.
dilute.	dilutum.	Diluted muriatic acid.	. .	. .	. .	5–20	0.3–1.3 c.c.
hydrocyanic, dilute.	hydrocyanicum dilutum.	Prussic acid.	. .	. .	. .	1–5	0.06–0.3 c.c.
lactic.	lacticum.		. .	. .	. .	5–30	0.3–2.0 c.c.
nitric.	nitricum.	Aqua fortis.	. .	. .	. .	2–5	0.1–0.3 c.c.
dilute.	dilutum.		. .	. .	. .	7–20	0.3–1.2 c.c.
nitrohydrochloric.	nitrohydrochloricum.	Nitromuriatic acid.	. .	. .	. .	1–3	0.06–0.2 c.c.
phosphoric, dilute.	phosphoricum dilutum.		. .	. .	. .	10–60	0.6–4.0 c.c.
salicylic.	salicylicum.		5–15	. .	. .	. .	0.3–1.0 gm.
sulphuric.	sulphuricum.	Oil of vitriol.	. .	. .	. .	1–2	0.06–0.12 c.c.
aromatic.	aromaticum.	Elixir of vitriol.	. .	. .	. .	5–20	0.3–1.3 c.c.
dilute.	dilutum.		. .	. .	. .	10–20	0.6–1.2 c.c.
tannic.	tannicum.		2–10	. .	. .	. .	0.13–0.6 gm.
tartaric.	tartaricum.		5–20	. .	. .	. .	0.3–1.3 gm.
Aconite:	Aconitum.	Monk's-hood.					
extract of.	Extractum aconiti.		$\frac{1}{6}$–$\frac{1}{4}$	. .	. .	. .	0.01–0.16 gm.
fluid extract of.	Fluidextractum aconiti.		. .	. .	. .	3–15	0.2–15.0 c.c
tincture of.	tinctura aconiti.		. .	. .	. .	1–5	0.06–0.3 c.c.
Aconitin.	Aconitina.		$\frac{1}{200}$–$\frac{1}{150}$	. .	. .	. .	0.0003–0.0004 gm.

Adonidin.							
Agaricin.	. . . . .	. . .	¼–¼	. .	. .	. .	0.008–0.01 gm.
Aloes.	. . . . .	. . .	¼–1	. .	. .	. .	0.016–0.065 gm.
extract of.	Aloe.	. . .	2–10	. .	. .	. .	0.13–0.65 gm.
tincture of.	Extractum aloes.	. . .	½–5	. .	. .	. .	0.03–0.3 gm.
and myrrh, tincture of.	Tinctura aloes.	. . .	. .	. .	½–2	. .	2–8 c.c.
Aloin.	Tinctura aloes et myrrhæ.	. . .	. .	. .	½–2	. .	2–8 c.c.
Alum.	Aloinum.	. . .	¼–½	. .	. .	. .	0.016–0.03 gm.
Ammonia :	Alumen.	. . .	5–60	. .	. .	. .	0.3–4.0 gm.
spirit of, aromatic.	Spiritus ammoniæ aromaticus.	. . .	. .	. .	½–1	. .	2–4 c.c.
water of.	Aqua ammoniæ.	Hartshorn.	. .	. .	. .	10–20	0.6–1.2 c.c.
Ammonium :	Ammonii.						
bromid.	bromidum.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
carbonate.	carbonas.	. . .	1–10	. .	. .	. .	0.06–0.6 gm.
chlorid.	chloridum.	. . .	5–15	. .	. .	. .	0.3–1.0 gm.
iodid.	iodidum.	. . .	2–5	. .	. .	. .	0.13–0.3 gm.
valerate.	valeras.	. . .	10–15	. .	. .	. .	0.6–1.0 gm.
Amyl nitrite.	Amylis nitris.	. . .	. .	. .	. .	1–2	0.06–0.12 c.c.
(by inhalation).	. . . . .	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
Anise :	Anisum.						
oil of.	Oleum anisi.						
spirit of.	Spiritus anisi.	. . .	. .	. .	. .	2–5	0.12–0.3 c.c.
Antimony oxid :	Antimonii oxidum.	. . .	. .	. .	1–2	. .	4–8 c.c.
wine of.	Vinum antimonii.	. . .	. .	Emetic ½–1	. .	Sed. Expec. 10–30	15–30–0.6–2.0 c.c.
Antimony and potassium tartrate (as an expectorant).	Antimonii et potassii tartras.	Tartar emetic.	1/20–1/10	. .	. .	. .	0.003–0.006 gm.
(as an emetic).	. . . .	. . .	½–1	. .	. .	. .	0.03–0.06 gm.
Antipyrin.	Antipyrina.	Phenozone.	5–15	. .	. .	. .	0.3–1.0 gm.
Apiol.	. . . . .	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Apocynum :	. . . . .	Canadian hemp.					
fluidextract of.	Fluidextractum apocyni.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Apomorphin hydrochlorid.	Apomorphinæ hydrochloridum.	. . .	1/10–1/5	Emetic	. .	. .	0.006–0.013 gm.
			1/15–1/10	Expec.	. .	. .	0.004–0.006 gm.
Arnica :	Arnica.						
-root, extract of.	Fluidextractum arnicæ radicis.	. . .	3–5	. .	. .	. .	0.2–0.3 gm.
fluidextract of.	. . . . .	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
tincture.	Tinctura arnicæ.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Aromatic powder.	Pulvis aromaticus.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
Arsenate of sodium, sol. of.	Liquor sodii arsenatis.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
Arsenic, white.	Arseni trioxidum.	. . .	$\frac{1}{40}$–$\frac{1}{20}$	. .	. .	. .	0.0016–0.003 gm.
Donovan's solution of.	Liquor arseni et hydrargyri iodidi.	Solution of arsenic and mercuric iodid.	. .	. .	. .	1–3	0.06–0.18 c.c.
Fowler's solution of.	Liquor potassii arsenitis.	Solution of potass. arsenite.	. .	. .	. .	2–8	0.12–0.5 c.c.
Asafetida.	Asafœtida.	. . .	3–10	. .	. .	. .	0.2–0.6 gm.
emulsion of.	Emulsum asafœtidæ.	. . .	. .	. .	4–8	. .	15–30 c.c.
tincture of.	Tinctura asafœtidæ.	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
Aspidium.	. . . . .	Male fern.	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
Aspirin.	. . . . .	. . .	10–15	. .	. .	. .	0.6–1 0 gm.
Atropin sulphate.	Atropinæ sulphas.	. . .	$\frac{1}{150}$–$\frac{1}{60}$	. .	. .	. .	0.0004–0.0013 gm.
Balsam of tolu.	Balsamum tolutanum.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
Belladonna:	Belladonna.						
fluidextract of.	Fluidextractum belladonnæ.	. . .	$\frac{1}{6}$–$\frac{1}{4}$	. .	. .	. .	0.008–0.016 gm.
tincture of.	Tinctura belladonnæ.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
-root, extract of.	Extractum belladonnæ.	. . .	$\frac{1}{6}$–$\frac{1}{4}$	. .	. .	. .	0.008–0.016 gm.
Benzoin, tincture of.	Tinctura benzoini.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
compound tincture of.	composita.	Friar's balsam.	. .	. .	. .	30–60	2–4 c.c.
Bismuth:							
citrate.	Bismuthi citras.	. . .	2–5	. .	. .	. .	0.13–0.3 gm.
subsalicylate.	subsalicylas.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
subcarbonate.	subcarbonas.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
subgallate.	subgallas.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
subnitrate.	subnitras.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
Blue mass (see *Mercury*).							
Borax.	Sodii boras.	. . .	5–15	. .	. .	. .	0.3–1.0 gm.
Brandy.	Spiritus vini gallici.	. . .	. .	½–1	. .	. .	15–30 c.c.
Bromid of ammonium.	Ammonii bromidum.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
calcium.	Calcii bromidum.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
of gold.	Auri bromidum.	. . .	$\frac{1}{8}$–$\frac{1}{3}$	. .	. .	. .	0.01–0.03 gm.
lithium.	Lithii bromidum.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.
potassium.	Potassii bromidum.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.
sodium.	Sodii bromidum.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.
strontium.	Strontii bromidum.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.

Bromoform.	Bromoformum.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
Brucin.	Brucina.	. . .	$\frac{1}{12}$–$\frac{1}{2}$	. .	. .	. .	0.005–0.03 gm.
Bryonia:	Bryonia.	Bryony.					
tincture of.	Tinctura bryoniæ.	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
Buchu, fluidextract of.	Fluidextractum buchu.	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
Butyl chloral hydrate.	. . . . .	. . .	1–10	. .	. .	. .	0.06–0.6 gm.
Cactus grandiflora:	. . . . .	Night-blooming cereus.					
fluidextract of.	. . . . .	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
tincture of.	. . . . .	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Caffein.	Caffeina.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
citrated.	citrata.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
Calcium:							
bromid.	Calcii bromidum.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.
carbonate precipitated.	carbonas præcipitatus.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
chlorid.	chloridum.	. . .	2–5	. .	. .	. .	0.13–0.3 gm.
hypophosphite.	hypophosphis.	. . .	5–20	. .	. .	. .	0.3–1.3 gm.
lactophosphate, syrup.	Syrupus calcii lactophosphatis.	. . .	. .	. .	1–4	. .	4–15 c.c.
phosphate.	Calcii phosphas.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
Calomel.	Hydrargyri chloridum mite.	Mild mercurous chlorid.	$\frac{1}{10}$–10	. .	. .	. .	0.0065–0.6 gm.
Calumba:	Calumba.						
fluidextract of.	Fluidextractum calumbæ.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
tincture of.	Tinctura calumbæ.	. . .	. .	. .	$\frac{1}{2}$–2	. .	2–8 c.c.
Camphor.	Camphora.	. . .	2–5	. .	. .	. .	0.13–0.3 gm.
monobromated.	Camphora monobromata.	. . .	1–5	. .	. .	. .	0.06–0.3 gm
spirit of.	Spiritus camphoræ.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
water of.	Aqua camphoræ.	. . .	. .	. .	1–4	. .	4–15 c.c.
Camphoric acid.	Acidum camphoricum.	. . .	5–20	. .	. .	. .	0.3–1.3 gm.
Cannabis Indica:	. . . . .	Indian hemp.					
extract of.	Extractum cannabis indicæ.	. . .	$\frac{1}{4}$–$\frac{1}{2}$	. .	. .	. .	0.016–0.03 gm.
fluidextract of.	Fluidextractum cannabis indicæ.	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
tincture of.	Tinctura cannabis indicæ.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
Cantharides:	Cantharis.	Spanish flies.					
tincture of.	Tinctura cantharidis.	. .	. .	. .	. .	1–5	0.06–0.3 c.c.
Capsicum.	Capsicum.	Cayenne pepper. / African pepper.	1–5	. .	. .	. .	0.06–0.3 gm.
fluidextract of.	Fluidextractum capsici.	. . .	. .	. .	. .	1–3	0.06–0.2 c.c.
oleoresin of.	Oleoresina capsici.	. . .	. .	. .	. .	$\frac{1}{4}$–1	0.016–0.06 c.c.
tincture of.	Tinctura capsici.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
Caraway, oil of.	Oleum cari.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
Cardamom:	Cardamomum.						
compound tincture of.	Tinctura cardamomi composita	. . .	. .	. .	1–2	. .	4–8 c.c.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Cardamom, tincture of.	Tinctura cardamomi.	. . .	. .	. .	1–2	. .	4–8 c.c.
Cascara sagrada:	Rhamnus purshiana.	Chittim bark. Sacred bark.					
extract of.	Fluidextractum rhamni purshianæ.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
fluidextract of.		. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
Cascarilla:							
extract of.	Extractum cascarillæ.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
tincture of.	Tinctura cascarillæ.	. . .	. .	. .	1–2	. .	4–8 c.c.
Castor oil.	Oleum ricini.	. . .	. .	. .	1–8	. .	4–30 c.c.
Catechu.							
tincture compound.	Tinctura catechu composita.	. . .	. .	. .	½–1	. .	2–4 c.c.
Cerium oxalate.	Cerii oxalas.	. . .	2–5	. .	. .	. .	0.12–0.3 gm.
Chalk mixture.	Mistura cretæ.	. . .	. .	. .	1–4	. .	4–15 c.c.
powder, compound.	Pulvis cretæ compositus.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.
prepared.	Creta præparata.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
Chamomile.	Anthemis.	. . .	30–60	. .	. .	. .	2–4 gm.
Charcoal.	Carbo ligni.	. . .	5–60	. .	. .	. .	0.3–4.0 gm.
Cherry-laurel water.	Aqua laurocerasi.	. . .	. .	. .	½–1	. .	2–4 c.c.
Chenopodium:		American wormseed.					
oil of.	Oleum chenopodii.	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Chirata:							
fluidextract of.	Fluidextractum chiratæ.	. . .	. .	. .	½–1	. .	2–4 c.c.
tincture of.	Tinctura chiratæ.	. . .	. .	. .	1–4	. .	4–15 c.c.
Chloral hydrate.	Chloral.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
Chloralamid.	Chloralum formamidatum.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
Chlorin-water.	Aqua chlori.	. . .	. .	. .	½–2	. .	2–8 c.c.
Chloroform:	Chloroformum.						
spirit of.	Spiritus chloroformi.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
Cimicifuga:	Cimicifuga.	Black snakeroot.					
fluidextract.	Fluidextract. cimicifugæ.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
tincture of.	Tinctura cimicifugæ.	. . .	. .	. .	1–2	. .	4–8 c.c.
Cinchona-bark:	Cinchona.	Peruvian bark.					
extract of.	Extractum cinchonæ.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
fluidextract of.	Fluidextractum cinchonæ.	. . .	. .	. .	½–1	. .	2–4 c.c.
tincture of.	Tinctura cinchonæ.	. . .	. .	. .	1–2	. .	4–8 c.c.
compound tincture of.	Tinctura cinchonæ composita.	Huxham's tincture.	. .	. .	1–4	. .	4–15 c.c.
Cinchonin sulphate.	Cinchoninæ sulphas.	. . .	1–30	. .	. .	. .	0.06–2.0 gm.

Cinnamon:	Cinnamomum.						
oil of.	Oleum cinnamomi.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
spirit of.	Spiritus cinnamomi.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
tincture of.	Tinctura cinnamomi.	. . .	. .	. .	$\frac{1}{4}$–1	. .	2–4 c.c.
Cloves, oil of.	Oleum caryophylli.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
Coca, fluidextract of.	Fluidextractum cocæ.	. . .	. .	. .	. .	$\frac{1}{2}$–2	. . 2–8 c.c.
Cocain hydrochlorid.	Cocainæ hydrochloridum.	. . .	$\frac{1}{4}$–$\frac{1}{2}$	. .	. .	. .	0.016–0.03 gm.
Codein or codeia.	Codeina.	. . .	$\frac{1}{2}$–2	. .	. .	. .	0.03–0.13 gm.
Cod-liver oil.	Oleum morrhuæ.	. . .	.	. .	1–4	. .	4–15 c.c.
Colchicin.	Colchicina.	. . .	$\frac{1}{100}$–$\frac{1}{50}$	. .	. .	. .	0.0004–0.0012 gm.
Colchicum:	Colchicum.	Meadow saffron.					
-root.	Colchici radix.						
extract of.	Extractum colchici radicis.	. . .	$\frac{1}{2}$–2	. .	. .	. .	0.03–0.13 gm.
fluidextract of.	Fluidextractum colchici radicis.	. . .	. .	. .	. .	2–4	0.12–0.24 c.c.
wine of.	Vinum colchici radicis.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
-seed.	Colchici semen.						
fluidextract of.	Fluidextractum colchici seminis.	. . .	. .	. .	. .	2–5	0.12–0.3 c.c.
wine of.	Vinum colchici seminis.	. . .	. .	. .	. .	15–60	1–4 c.c.
Colocynth:	Colocynthis.						
extract of.	Extractum colocynthidis.	. . .	2–5	. .	. .	. .	0.13–0.3 gm.
compound extract of.	Extractum colocynthidis compositum.	. . .	5–20	. .	. .	. .	0.3–1.3 gm.
Conium:	Conium.	Hemlock.					
extract of.	Extractum conii.	. . .	$\frac{1}{2}$–1	. .	. .	. .	0.03–0.06 gm.
fluidextract of.	Fluidextractum conii.	. . .	. .	. .	. .	2–5	0.1–0.3 c.c.
Copper sulphate (emetic).	Cupri sulphas.	Bluestone. Blue vitriol.	3–5	. .	. .	. .	0.2–0.3 gm.
Corn-silk:	Zea.						
fluidextract of.	Fluidextractum zeæ.	. . .	. .	. .	$\frac{1}{2}$–2	. .	2–8 c.c.
Corrosive sublimate.	Hydrargyri chloridum corrosivum.	Bichlorid of mercury.	$\frac{1}{60}$–$\frac{1}{12}$	. .	. .	. .	0.001–0.005 gm.
Creasote.	Creosotum.	. . .	. .	. .	. .	1–10	0.06–0.6 c.c.
carbonate.	Creosoti carbonas.	Creosotal.	. .	. .	. .	5–20	0.3–1.2 c.c.
water	Aqua creosoti.	. . .	. .	. .	1–4	. .	4–15 c.c.
Croton oil.	Oleum tiglii.	. . .	. .	. .	. .	1–2	0.06–0.12 c.c.
Cubeb:	Cubeba.						
fluidextract of.	Fluidextractum cubebæ.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
oil of.	Oleum cubebæ.	. . .	. .	. .	. .	5–15	0.3–1.0 c.c.
oleoresin of.	Oleoresina cubebæ.	. . .	. .	. .	. .	5–15	0.3–1.0 c.c.
tincture of.	Tinctura cubebæ.	. . .	. .	. .	$\frac{1}{2}$–2	. .	2–8 c.c.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Digitalin.	Digitalinum.	. . .	$\frac{1}{100}$–$\frac{1}{60}$	. .	. .	. .	0.00065–0.001 gm.
Digitalis:	Digitalis.	Foxglove.					
extract of.	Extractum digitalis.	. . .	$\frac{1}{6}$–$\frac{1}{2}$	. .	. .	. .	0.01–0.16 gm.
fluidextract of.	Fluidextractum digitalis.	. . .	. .	. .	. .	1–2	0.06–0.12 c.c.
infusion of.	Infusum digitalis.	. . .	. .	. .	1–4	. .	4–15 c.c.
tincture of.	Tinctura digitalis.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Dionin.	. . . .	. . .	$\frac{1}{4}$–$\frac{1}{2}$	. .	. .	. .	0.016–0.03 gm.
Diuretin.	. . . .	Theobromin and sodium salicylate.	5–10	. .	. .	. .	0.3–0.65 gm.
Donovan's solution.	Liquor arseni et hydrargyri iodidi.	. . .	. .	. .	. .	1–3	0.06–0.18 c.c.
Dover's powder.	Pulvis ipecacuanhæ et opii.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
Elaterin.	Elaterinum.	. . .	$\frac{1}{30}$–$\frac{1}{10}$	. .	. .	. .	0.002–0.006 gm.
Elaterium.	Elaterium.	. . .	$\frac{1}{8}$–$\frac{1}{4}$	. .	. .	. .	0.008–0.016 gm.
Epsom salt.	Magnesii sulphas.	. . .	60–480	. .	. .	. .	4–31 gm.
Ergot, extract of.	Fluidextractum ergotæ.	Ergot of rye.	1–15	. .	. .	. .	0.065–1.0 gm.
fluidextract of.	. . . . .	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
wine of.	Vinum ergotæ.	. .	. .	. .	1–4	. .	4–15 c.c.
Ergotin.	Ergotinum.	. . .	2–5	. .	. .	. .	0.13–0.3 gm.
Erigeron:	Fleabane.						
oil of.	Oleum erigerontis.	. . .	. .	. .	. .	5–15	0.3–1.0 c.c.
Eriodictyon:	. . . .	Yerba santa.					
syrup of.	Syrupus eriodictyi.	. . .	. .	. .	1–4	. .	4–15 c.c.
Eserin.	. . . .	. . .	$\frac{1}{200}$–$\frac{1}{60}$	. .	. .	. .	0.0005–0.001 gm.
Ether:	Æther.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
compound spirit of.	Spiritus ætheris compositus.	Hoffmann's anodyne.	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
nitrous spirit of.	Spiritus ætheris nitrosi.	Sweet spirits of niter.	. .	. .	. .	20–60	1.3–4.0 c.c.
Eucalyptol.	Eucalyptol.	. . .	. .	. .	. .	3–10	0.2–0.6 c.c.
Eucalyptus:	Eucalyptus.						
fluidextract of.	Fluidextractum eucalypti.	. . .	. .	. .	. .	10–60	1.2–4.0 c.c.
oil of.	Oleum eucalypti.	. . .	. .	. .	. .	3–10	0.2–0.6 c.c.
Euonymin.	. . . .	. . .	$\frac{1}{2}$–3	. .	. .	. .	0.03–0.2 gm.
Euonymus:		Wahoo.	3–20	. .	. .	. .	0.2–1.3 gm.
extract of.	Extractum euonymi.	. . .	3–5	. .	. .	. .	0.2–0.3 gm.
Eupatorium:	. . . .	Boneset.					
fluidextract of.	Fluidextractum eupatorii.	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
Euquinin.	. . . .	. . .	5–60	. .	. .	. .	0.3–4.0 gm.

Exalgin.	. . .	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
Extracts (*solid*):							
aloes	Extractum aloes.	. . .	½–5	. .	. .	. .	0.03–0.3 gm.
belladonna.	belladonnæ foliorum alcoholicum.	. . .	⅙–¼	. .	. .	. .	0.01–0.016 gm.
cascara sagrada.	rhamni purshianæ.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
cascarilla.	cascarillæ.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
cimicifuga.	cimicifugæ.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
cinchona.	cinchonæ.	. . .	5–15	. .	. .	. .	0.3–1.0 gm.
colchicum-root.	colchici radicis.	. . .	½–2	. .	. .	. .	0.03–0.13 gm.
colocynth.	colocynthidis.	. . .	2–5	. .	. .	. .	0.13–0.3 gm.
digitalis.	digitalis.	. . .	⅙–¼	. .	. .	. .	0.01–0.016 gm.
ergot.	ergotæ.	. . .	1–15	. .	. .	. .	0.06–1.0 gm.
euonymus.	euonymi.	. . .	3–20	. .	. .	. .	0.2–1.3 gm.
gentian.	gentianæ.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
hematoxylon.	hæmatoxyli.	. . .	8–30	. .	. .	. .	0.5–2.0 gm.
hyoscyamus.	hyoscyami.	. . .	½–3	. .	. .	. .	0.03–0.2 gm.
iris.	iridis.	. . .	2–4	. .	. .	. .	0.13–0.26 gm.
jalap.	jalapæ.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
nux vomica.	nucis vomicæ.	. . .	⅛–½	. .	. .	. .	0.01–0.03 gm.
opium.	opii.	. . .	¼–1	. .	. .	. .	0.016–0.06 gm.
physostigma.	physostigmatis.	. . .	⅛–¼	. .	. .	. .	0.008–0.016 gm.
quassia.	quassiæ.	. . .	1–3	. .	. .	. .	0.06–0.2 gm.
rhubarb.	rhei.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
stramonium-seed.	stramonii seminis.	. . .	⅛–½	. .	. .	. .	0.01–0.03 gm.
taraxacum.	taraxaci.	. . .	5–20	. .	. .	. .	0.3–1.3 gm.
Extracts (*fluid*):							
aconite.	Fluidextractum aconiti.	. . .	. .	. .	. .	1–2	0.06–0.12 c.c.
belladonna-root.	" belladonnæ radicis.	. . .	. .	. .	. .	1–2	0.06–0.12 c.c.
buchu.	" buchu.	. . .	. .	. .	½–1	. .	2–4 c.c.
calumba.	" calumbæ.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
cannabis indica.	" cannabis indicæ.	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Canadian hemp.	" apocyni.	. . .	. .	. .	. .	5–20	0.3–1.3 c.c.
capsicum.	" capsicum.	. . .	. .	. .	. .	1–2	0.06–0.12 c.c.
cascara sagrada.	" rhamni purshianæ	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
chimaphila.	" chimaphilæ.	. . .	. .	. .	. .	30–60	2–4 c.c.
chiretta.	" chiratæ.	. . .	. .	. .	. .	30–60	2–4 c.c.
cimicifuga.	" cimicifugæ.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
cinchona.	" cinchonæ.	. . .	. .	. .	. .	30–60	2–4 c.c.
coca.	" cocæ.	. . .	. .	. .	½–2	. .	2–8 c.c.
colchicum-seed.	" colchici semini.	. . .	. .	. .	. .	2–5	0.12–0.3 c.c.
conium.	" conii.	. . .	. .	. .	. .	2–5	0.12–0.3 c.c.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Extracts (*fluid*):							
corn-silk.	Fluidextractum zeæ.	. . .	. .	. .	½-2	. .	2-8 c.c.
cubeb.	" cubebæ.	. . .	. .	. .	. .	10-30	0.6-2.0 c.c.
digitalis.	" digitalis.	. . .	. .	. .	. .	1-2	0.06-0.12 c.c.
ergot.	" ergotæ.	. . .	. .	. .	½-1	. .	2-4 c.c.
eucalyptus.	" eucalypti.	. . .	. .	. .	. .	10-60	0.6-4.0 c.c.
gelsemium.	" gelsemii.	. . .	. .	. .	. .	2-5	0.12-0.3 c.c.
gentian.	" gentianæ.	. . .	. .	. .	½-1	. .	2-4 c.c.
geranium.	" geranii.	. . .	. .	. .	½-1	. .	2-4 c.c.
ginger.	" zingiberis.	. . .	. .	. .	. .	10-30	0.6-2.0 c.c.
hamamelis.	" hamamelidis.	. . .	. .	. .	½-1	. .	2-4 c.c.
hematoxylon.	" hæmatoxyli.	. . .	. .	. .	1-4	. .	2-15 c.c.
hydrastis.	" hydrastis.	. . .	. .	. .	½-1	. .	2-4 c.c.
hyoscyamus.	" hyoscyami.	. . .	. .	. .	. .	5-30	0.3-2.0 c.c.
ipecac (emetic).	" ipecacuanhæ.	. . .	. .	. .	. .	10-30	0.6-2.0 c.c.
(expectorant).	" "	. . .	. .	. .	. .	1-2	0.06-0.12 c.c.
iris.	" iridis.	. . .	. .	. .	. .	5-10	0.3-0.6 c.c.
lobelia (emetic).	" lobeliæ	. . .	. .	. .	. .	15-60	1-4 c.c.
(expectorant).	" "	. . .	. .	. .	. .	1-5	0.06-0.3 c.c.
nux vomica.	" nucis vomicæ.	. . .	. .	. .	. .	1-5	0.06-0.3 c.c.
pilocarpus.	" pilocarpi.	. . .	. .	. .	½-1	. .	2-4 c.c.
podophyllum.	" podophylli.	. . .	. .	. .	. .	2-20	0.12-1.2 c.c.
pulsatilla.	" pulsatillæ.	. . .	. .	. .	. .	1-5	0.06-0.3 c.c.
quassia.	" quassiæ.	. . .	. .	.	. .	5-10	0.3-0.6 c.c.
rhamnus purshiana.	" rhamni purshianæ.	. . .	. .	. .	. .	10-30	0.6-2.0 c.c.
rhubarb.	" rhei.	. . .	. .	. .	. .	10-30	0.6-2.0 c.c.
sarsaparilla, compound.	" sarsaparillæ compositum.	. . .	. .	. .	½-1	. .	2-4 c.c.
savine.	" sabinæ.	. . .	. .	. .	. .	5-15	0.3-1.0 c.c.
scoparius.	" scoparii.	. . .	. .	. .	. .	5-20	0.3-1.2 c.c.
senega.	" senegæ.	. . .	. .	. .	. .	5-20	0.3-1.2 c.c.
senna.	" sennæ.	. . .	. .	. .	1-2	. .	4-8 c.c.
squill.	" scillæ.	. . .	. .	. .	. .	1-5	0.06-0.3 c.c.
triticum	" tritici.	. . .	. .	. .	2-4	. .	8-15 c.c.
uva ursi.	" uvæ ursi	. . .	. .	. .	1-4	. .	4-15 c.c.
valerian.	" valerianæ.	. . .	. .	. .	½-1	. .	2-4 c.c.
veratrum viride.	" veratri	. . .	. .	. .	. .	1-3	0.06-0.2 c.c.

Extracts (*fluid*):								
viburnum.	Fluidextractum viburni prunifolii.		. . .	. .	. .	1–2	. .	4–8 c.c.
wild cherry.	pruni virginianæ.		. . .	. .	. .	½–1	. .	2–4 c.c.
Fowler's solution.	Liquor potassi arsenitis.		. . .	. .	. .	. .	2–8	0.12–0.5 c.c.
Gamboge.	Cambogia.		. . .	½–5	. .	. .	. .	0.03–0.3 gm.
Gaultheria, oil of.	Oleum gaultheriæ.	Oil of wintergreen.		. .	. .	. .	5–20	0.3–1.2 c.c.
Gelsemium:	Gelsemium.	Yellow jasmine.						
fluidextract of.	Fluidextractum gelsemii.		. . .	. .	. .	. .	2–10	0.12–0.6 c.c.
tincture of.	Tinctura gelsemii.		. . .	. .	. .	. .	10–20	0.6–1.2 c.c.
Gentian:	Gentiana.							
fluidextract	Fluidextractum gentianæ.		. . .	1–5	. .	. .	. .	0.06–0.3 gm.
infusion, compound.	Infusum gentianæ compositum		. . .	. .	. .	½–8	. .	4–30 c.c.
tincture of, compound.	Tinctura gentianæ composita.		. . .	. .	. .	½–2	. .	2–8 c.c.
Geranium, fluidextract.	Fluidextractum geranii.	Crane's bill.		. .	. .	½–1	. .	2–4 c.c.
Gin.	Spiritus juniperi compositus.		. . .	. .	. .	1–4	. .	4–15 c.c.
Ginger:	Zingiber.							
fluidextract of.	Fluidextractum zingiberis.		. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
oleoresin of.	Oleoresina zingiberis.		. . .	. .	. .	. .	½–1	0.03–0.06 c.c.
syrup of.	Syrupus zingiberis.		. . .	. .	. .	¼–4	. .	2–15 c.c.
tincture of.	Tinctura zingiberis.		. . .	. .	. .	½–1	. .	2–4 c.c.
Glycerin.	Glycerinum.		. . .	. .	. .	1–2	. .	4–8 c.c.
Glycyrrhiza:	Glycyrrhiza.	Licorice-root.						
extract of.	Fluidextractum glycyrrhizæ.		. . .	5–100	. .	. .	. .	0.3–6.5 gm.
fluidextract of.	. . . .		. . .	. .	. .	1–2	. .	4–8 c.c.
Grindelia.	. . . .		. . .	. .	. .	½–1	. .	2–4 c.c.
Guaiac:	Guaiacum.	Lignum vitæ.						
resin of.	Guaiaci resina.		. . .	5–30	. .	. .	. .	0.3–2.0 gm.
tincture of.	Tinctura guaiaci.		. . .	. .	. .	½–1	. .	2–4 c.c.
ammoniated.	ammoniata.		. . .	. .	. .	½–1	. .	2–4 c.c.
Guaiacol:	Guaiacol.		. . .	. .	. .	. .	5–20	0.3–1.3 c.c.
carbonate.	Guaiacolis carbonas.	Duotal.		5–30	. .	. .	. .	0.3–2.0 gm.
Hamamelis, fluidextract of.	Fluidextractum hamamelidis.	Witch-hazel.		. .	. .	½–1	. .	2–4 c.c.
Hellebore:	Veratrum.							
fluidextract.	Fluidextractum veratri.		. . .	. .	. .	. .	1–3	0.06–0.2 c.c.
tincture of.	Tinctura veratri.		. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Hematoxylon:	Hæmatoxylon.	Logwood.						
extract of.	Fluidextractum hæmatoxyli.		. . .	5–30	. .	. .	. .	0.3–2.0 gm.
fluidextract of.	. . . .		. . .	. .	. .	1–4	. .	2–15 c.c.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Heroin.	. . . .	. . .	1/12–1/8	. .	. .	. .	0.005–0.008 gm.
Hoffmann's anodyne.	Spiritus ætheris compositus.	. . .	. .	. .	1/2–2	. .	2–8 c.c.
Honey.	Mel.	. . .	. .	. .	1–2	. .	4–8 c.c.
clarified.	despumatum.	. . .	. .	.	1–2	. .	4–8 c.c.
Hops:	Humulus.						
fluidextract of.	Fluidextractum lupulini.	. . .	. .	. .	1/2–1	. .	2–4 c.c.
tincture of.	Tinctura humuli.	. . .	. .	. .	2–4	. .	8–15 c.c.
Hydrargyrum (see *Mercury*).						. .	
Hydrastin.	Hydrastina.	. .	1/4–1/2	. .	. .	. .	0.016–0.03 gm.
Hydrastinin hydrochlorid.	Hydrastininæ hydrochloridum.	. . .	1/4–1	. .	. .	. .	0.016–0.06 gm.
Hydrastis:	Hydrastis.	Golden seal.					
fluidextract.	Fluidextractum hydrastis.	. . .	. .	. .	1/2–1	. .	2–4 c.c.
tincture of.	Tinctura hydrastis.	. . .	. .	. .	1/2–2	. .	2–8 c.c.
Hyoscyamus:	Hyoscyamus.	Henbane.					
extract of.	Extractum hyoscyami.	. . .	1/2–3	. .	. .	. .	0.03–0.2 gm.
fluidextract of.	Fluidextractum hyoscyamus.	. . .	. .	. .	. .	5–20	0.3–1.3 c.c.
Hypophosphites, syrup of.	Syrupus hypophosphitum.	. . .	. .	. .	1–4	. .	4–15 c.c.
with iron, syrup of.	cum ferro.	. . .	. .	. .	1–4	. .	4–15 c.c.
Ichthyol.	Ichthyol.	. . .	1–10	. .	. .	. .	0.016–0.6 gm.
Iodin:	Iodum.						
tincture of.	Tinctura iodi.	. . .	. .	. .	. .	3–5	0.2–0.3 c.c.
Iodoform.	Iodoformum.	. . .	1–5	. .	. .	. .	0.016–0.3 gm.
Ipecacuanha:	Ipecacuanha.	Ipecac.					
fluidextract of.	Fluidextractum ipecacuanhæ.	. . .	. .	. .	. .	Emetic 10–30	0.6–2.0 c.c.
syrup of.	Syrupus ipecacuanhæ.	. . .	. .	. .	Emetic 2–4	. .	8–15 c.c.
wine of.	Vinum ipecacuanhæ.	. . .	. .	. .	. .	Expec. 10–30	0.6–2.0 c.c.
Iris:	Iris.	Blue flag.					
extract of.	Fluidextractum iridis.	. . .	2–4	. .	. .	. .	0.13–0.26 gm.
fluid.	. . . .	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Iron:							
bitter wine of.	Vinum ferri amarum.	. . .	. .	. .	1–3	. .	4–11 c.c.
carbonate, mass of.	Massa ferri carbonatis.	Vallet's mass.	3–5	. .	. .	. .	0.2–0.3 gm.
pills of.	Pilulæ ferri carbonatis.	Blaud's pills.	1–3	. .	. .	. .	0.06–0.2 gm.
saccharated.	Ferri carbonas saccharatus.	. . .	5–10	. .	. .	5–30	0.3–0.6 gm.
chlorid, tincture of.	Tinctura ferri chloridi.	. . .	. .	. .	. .	. .	0.3–2.0 c.c.

Iron:							
citrate.	Ferri citras.		2–5	. .	. .	. .	0.13–0.3 gm.
dialyzed.	Ferrum dialysatum.		. .	1–2	. .	. .	30–60 c.c.
hydroxid of.	Ferri hydroxidum.	Ferric hydrate.	. .	. .	4	. .	15 c.c.
hypophosphite.	Ferri hypophosphis.		5–10	. .	. .	. .	0.3–0.6 gm.
iodid of syrup.	Syrupus ferri iodidi.		. .	. .	. .	5–60	0.3–4.0 c.c.
phosphate, soluble.	Ferri phosphas solubilis.		3–10	. .	. .	. .	0.2–0.6 gm.
pyrophosphate of.	Ferri pyrophosphas solubilis.		3–10	. .	. .	. .	0.2–0.6 gm.
sulphate of.	sulphas.	Copperas. Green vitriol.	2–3	. .	. .	. .	0.03–0.2 gm.
valerate of.	Ferri valeras.		1–3	. .	. .	. .	0.06–0.2 gm.
Iron and ammonium citrate.	Ferri ammonii et citras.		5–10	. .	. .	. .	0.3–0.6 gm.
and ammonium acetate, solution of.	Liquor ferri et ammonii acetatis.	Basham's mixture.	. .	. .	1–4	. .	4–15 c.c.
and quinin citrate.	Ferri et quininæ citras.		5–10	. .	. .	. .	0.3–0.6 gm.
and strychnin citrate.	Ferri et strychninæ citras.		1–5	. .	. .	. .	0.06–0.3 gm.
Jaborandi:	Pilocarpus.						
fluidextract of.	Fluidextractum pilocarpi.		. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
infusion of.	Infusum pilocarpi.		. .	1–2	. .	. .	30–60 c.c.
Jalap:	Jalapa.						
compound powder of.	Pulvis jalapæ compositus.		15–40	. .	. .	. .	1.0–1.6 gm.
extract of.	Extractum jalapæ.		5–10	. .	. .	. .	0.3–0.6 gm.
Jambul:	. . . .		5–20	. .	. .	. .	0.3–1.3 gm.
fluidextract of.	Fluidextractum jambul.		. .	. .	. .	10–30	0.6–2.0 c.c.
Kino:	. . . .		5–10	. .	. .	. .	0.3–0.6 gm.
tincture of.	Tinctura kino.		. .	. .	1–2	. .	4–8 c.c.
Lactucarium.	. . . .	Lettuce opium.	15–30	. .	. .	. .	1–2 gm.
syrup of.	Syrupus lactucarii.		. .	. .	1–4	. .	4–15 c.c.
Lead:	. . . .						
acetate of.	Plumbi acetas.	Sugar of lead.	1–3	. .	. .	. .	0.06–0.2 gm.
Leptandra:	. . . .	Culver's root.					
fluidextract	Fluidextractum leptandræ.		1–5	. .	. .	. .	0.06–0.3 gm.
Licorice powder, compound.	Pulvis glycyrrhizæ compositus		60–120	. .	. .	. .	4–8 gm.
compound mixture of.	Mistura glycyrrhizæ composita	Brown mixture.	. .	. .	1–4	. .	4–15 c.c.
Lime, solution of.	Liquor calcis.		. .	. .	1–8	. .	4–30 c.c.
syrup of.	Syrupus calcis.		. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
Lithium:							
benzoate.	Lithii benzoas.		5–20	. .	. .	. .	0.3–1.3 gm.
bromid.	bromidum.		10–60	. .	. .	. .	0.6–4.0 gm.
carbonate.	carbonas.		5–20	. .	. .	. .	0.3–1.3 gm.
citrate.	citras.		5–20	. .	. .	. .	0.3–1.3 gm.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Lithium salicylate.	Lithii salicylas.	. . .	20–30	. .	. .	. .	0.6–2.0 gm.
Lobelia:							
fluidextract of (emetic).	Fluidextractum lobeliæ.	Indian tobacco.	. .	. .	. .	16–60	1–4 c.c.
(expectorant).	. . . .	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
tincture of (emetic).	Tinctura lobeliæ.	. . .	. .	. .	1–2	. .	4–8 c.c.
(expectorant).	. . . .	. . .	. .	. .	. .	5–20	0.3–1.3 c.c.
Magnesia.	Magnesii oxidum.	Calcined magnesia. / Husband's magnesia.	10–60	. .	. .	. .	0.6–4.0 gm.
Magnesium carbonate.	Magnesii carbonas.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.
citrate of.	citras effervescens.	. . .	60–240	. .	. .	. .	4–15 gm.
solution of citrate of.	Liquor magnesii citratis.	. . .	. .	6–12	. .	. .	180–360 c.c.
sulphate.	Magnesii sulphas.	Epsom salt.	60–480	. .	. .	. .	4–30 gm.
Male fern, oleoresin of.	Oleoresina aspidii.	. . .	. .	. .	½–1	. .	2–4 c.c.
Malt, extract of.	. . . .	. . .	. .	. .	2–4	. .	8–15 c.c.
Manganese dioxid.	Mangani oxidum nigrum.	. . .	2–5	. .	. .	. .	0.2–0.3 gm.
Manna.	. . . .	. . .	60–480	. .	. .	. .	4–30 gm.
Menthol.	Menthol.	Peppermint camphor.	½–2	. .	. .	. .	0.03–0.13 gm.
Mercury:	Hydrargyrum.	Quicksilver.					
biniodid of.	Hydrargyri iodidum rubrum.	Red iodid of mercury.	$\frac{1}{60}$–$\frac{1}{12}$	. .	. .	. .	0.0013–0.005 gm.
corrosive chlorid of.	Hydrargyri chloridum corrosivum.	Corrosive sublimate. / Bichlorid of mercury.	$\frac{1}{60}$–$\frac{1}{12}$	. .	. .	. .	0.0013–0.005 gm.
cyanid.	cyanidum.	. . .	$\frac{1}{10}$–$\frac{1}{6}$	. .	. .	. .	0.0016–0.006 gm.
mass of.	Massa hydrargyri.	Blue mass. / Blue pill.	½–10	. .	. .	. .	0.03–0.6 gm.
mild chlorid of.	Hydrargyri chloridum mite.	Calomel.	$\frac{1}{10}$–10	. .	. .	. .	0.006–0.6 gm.
Methyl salicylate.	Methylis salicylas.	Artificial oil of wintergreen.	. .	. .	. .	10–20	0.6–1.2 c.c.
Methylene-blue.	. . . .	. . .	1–4	. .	. .	. .	0.06–0.26 gm.
Morphin sulphate.	Morphinæ sulphas.	Morphia.	$\frac{1}{8}$–½	. .	. .	. .	0.008–0.06 gm.
Musk:	Moschus.	. . .	5–15	. .	. .	. .	0.3–1.0 gm.
tincture of.	Tinctura moschi.	. . .	. .	. .	1–2	. .	4–8 c.c.
Myrrh:	Myrrha.						
tincture of.	Tinctura myrrhæ.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
Naphthalen.	Naphthalenum.	Naphthalene. / Coal-tar camphor.	2–10	. .	. .	. .	0.13–0.6 gm.
Naphthol.	Naphthol.	Beta-naphthol.	2–10	. .	. .	. .	0.13–0.6 gm.
beta-naphthol.	. . . .	. . . .	2–10	. .	. .	. .	0.13–0.6 gm.

Naphthol.							
beta-naphthol bismuth.	. . . .	Orphol.	5–30	. .	. .	. .	0.3–2.0 gm.
Nitroglycerin:	Glycerylis nitras.	. .	$\frac{1}{100}$–$\frac{1}{60}$	. .	. .	. .	0.0003–0.0013 gm.
spirit of.	Spiritus glycerylis nitratis.	. .	. .	. .	. .	1–5	0.06–0.3 c.c.
Nux vomica:	Nux vomica.	. . .	$\frac{1}{2}$–5	. .	. .	. .	0.03–0.3 gm.
extract of.	Fluidextractum nucis vomicæ.	. . .	$\frac{1}{8}$–$\frac{1}{4}$	. .	. .	. .	0.01–0.016 gm.
fluid.	. . . .	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
tincture of.	Tinctura nucis vomicæ.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Olive oil.	Oleum olivæ.	Sweet oil.	. .	1–1	. .	. .	15–30 c.c.
Opium:	. . . .	. . .	$\frac{1}{2}$–2	. .	. .	. .	0.03–0.13 gm.
extract of.	Extractum opii.	. . .	$\frac{1}{4}$–1	. .	. .	. .	0.016–0.65 gm.
powder.	Opii pulvis.	. . .	$\frac{1}{2}$–2	. .	. .	. .	0.03–0.13 gm.
tincture of.	Tinctura opii.	Laudanum.	. .	. .	. .	10–20	0.6–1.2 c.c.
camphorated.	Tinctura opii camphorata.	Paregoric.	. .	. .	$\frac{1}{2}$–4	. .	1.8–15.0 c.c.
deodorized.	deodorati.	. . .	. .	. .	. .	10–20	0.6–1.2 c.c.
wine of.	Vinum opii.	. . .	. .	. .	. .	10–20	0.6–1.2 c.c.
Orexin.	. . . .	. . .	5–8	. .	. .	. .	0.3–0.5 gm.
Ox-gall.	Fel bovis.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
Pancreatin.	Pancreatinum.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
Paraldehyd.	Paraldehydum.	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
Paregoric (see *Opium*).							
Pareira:							
fluidextract of.	Fluidextractum pareiræ.	. . .	. .	. .	$\frac{1}{4}$–1	. .	2–4 c.c.
Pearson's solution.	Liquor sodii arsenatis.	Sol. of sod. arsenate.	. .	. .	. .	1–5	0.06–0.3 c.c.
Pelletierin.	. . . .	. . .	5–8	. .	. .	. .	0.3–0.5 gm.
Pennyroyal:							
oil of.	Oleum hedeomæ.	. . .	. .	. .	. .	3–5	0.2–0.3 c.c.
Peppermint:	Mentha piperita.						
oil of.	Oleum menthæ piperitæ.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
spirit of.	Spiritus menthæ piperitæ.	. . .	. .	. .	. .	10–20	0.6–1.2 c.c.
Pepsin (pure).	Pepsinum.	. . .	5–20	. .	. .	. .	0.3–1.2 gm.
saccharated.	saccharatum.	. . .	20–60	. .	. .	. .	1.3–4.0 gm.
Phenacetin.	Acetphenetidinum.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
Phosphorated oil.	Oleum phosphoratum.	. . .	. .	. .	. .	1–2	0.06–0.12 c.c.
Phosphorus.	Phosphorus.	. . .	$\frac{1}{100}$–$\frac{1}{80}$	. .	. .	. .	0.0006–0.0013 gm.
Physostigma:	. . . .	Calabar bean.	. .				
extract of.	Extractum physostigmatis.	. . .	$\frac{1}{16}$–$\frac{1}{8}$	. .	. .	. .	0.004–0.008 gm.
tincture of.	Tinctura physostigmatis.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Physostigmin salicylate.	Physostigminæ salicylas.	Eserin salicylate.	$\frac{1}{150}$–$\frac{1}{60}$	. .	. .	. .	0.0005–0.001 gm.
sulphate.	Physostigminæ sulphas.	sulphate.	$\frac{1}{100}$–$\frac{1}{60}$	. .	. .	. .	0.0005–0.001 gm.
Picrotoxin.	Picrotoxinum.	. . .	$\frac{1}{50}$–$\frac{1}{30}$	. .	. .	. .	0.0008–0.002 gm.
Pilocarpin hydrochlorid.	Pilocarpinæ hydrochloridum.	. . .	$\frac{1}{8}$–$\frac{1}{2}$	. .	. .	. .	0.008–0.03 gm.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Pilocarpus.	. . . .	Jaborandi.					
fluidextract.	Fluidextractum pilocarpi.	. . .	. .	. .	½–1	. .	2–4 c.c.
Pedophyllum.	. . . .	May-apple.					
fluidextract of.	Fluidextractum podophylii.	. . .	. .	. .	. .	2–20	0.12–1.2 c.c.
resin of.	Resina podophylli.	Podophyllin.	⅛–¼	. .	. .	. .	0.008–0.03 gm.
Potassium:							
acetate.	Potassii acetas.	. . .	15–60	. .	. .	. .	1–4 gm.
bicarbonate.	bicarbonas.	. . .	15–60	. .	. .	. .	1–4 gm.
bitartrate.	bitartras.	Cream of tartar.	15–60	. .	. .	. .	1–4 gm.
bromid.	bromidum.	. . .	10–60	. .	. .	. .	0.6–4.0 gm.
chlorate.	chloras.	. . .	2–10	. .	. .	. .	0.13–0.6 gm.
citrate.	citras.	. . .	15–60	. .	. .	. .	1–4 gm.
cyanid.	cyanidum.	. . .	1/20–1/10	. .	. .	. .	0.003–0.006 gm.
iodid.	iodidum.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
permanganate.	permanganas.	. . .	1–3	. .	. .	. .	0.06–0.2 gm.
Potassium and sodium tartrate.	Potassii et sodii tartras.	Rochelle salt.	60–240	. .	. .	. .	4–16 gm.
Pulsatilla, fluidextract.	Fluidextractum pulsatillæ.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
Quassia.							
extract of.	Fluidextractum quassiæ.	. . .	1–3	. .	. .	. .	0.06–0.2 gm.
fluid extract of.	. . . .	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
tincture of.	Tinctura quassiæ.	. . .	. .	. .	½–1	. .	2–4 c.c.
Quinin (see *Cinchona bark*).							
Resorcin.	Resorcinol.	. . .	1–10	. .	. .	. .	0.06–0.6 gm.
Rhubarb.	Rheum.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
extract of.	Fluidextractum rhei.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
fluid.	. . . .	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
powder of, compound.	Pulvis rhei compositus.	. . .	60–120	. .	. .	. .	4–8 gm.
syrup of, aromatic.	Syrupus rhei aromaticus.	. . .	. .	. .	2–4	. .	8–15 c.c.
tincture of.	Tinctura rhei.	. . .	. .	. .	1–2	. .	4–8 c.c.
aromatic.	aromatica.	. . .	. .	. .	½–1	. .	2–4 c.c.
Rhubarb and soda mixture.	Mistura rhei et sodæ.	. . .	. .	. .	½–2	. .	2–8 c.c.
Saccharin.	Benzosulphinidum.	Glusidum.	1–10	. .	. .	. .	0.06–0.6 gm.
Salicin.	Salicinum.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
Salol.	Phenylis salicylas.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
Salophen.	. . . .	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
Sandalwood, oil of.	Oleum santali.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Santonin.	Santoninum.	. . .	½–2	. .	. .	. .	0.03–0.13 gm.

Sarsaparilla:							
fluidextract, compound.	Fluidextractum sarsaparillæ compositum.	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
syrup of, compound.	Syrupus sarsaparillæ compositus.	. . .	. .	. .	1–8	. .	4–30 c.c.
Savine, oil of.	Oleum sabinæ.	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Scammony:						. .	
resin of.	Resina scammonii.	. . .	1–8	. .	. .	. .	0.06–0.5 gm.
Scoparius, fluidextract.	Fluidextractum scoparii.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Senega:							
fluidextract.	Fluidextractum senegæ.	. . .	. .	. .	. .	10–20	0.6–1.2 c.c.
syrup.	Syrupus senegæ	. . .	. .	. .	$\frac{1}{2}$–2	. .	2–4 c.c.
Senna:							
fluidextract.	Fluidextractum sennæ.	. . .	. .	. .	1–2	. .	4–8 c.c.
infusion of, compound.	Infusum sennæ compositum.	Black draught.	. .	. .	. .	. .	15–30 c.c.
syrup of.	Syrupus sennæ.	. . .	. .	$\frac{1}{2}$–1	$\frac{1}{2}$–2	. .	2–8 c.c.
Silver:							
nitrate.	Argenti nitras.	Lunar caustic.	$\frac{1}{6}$–$\frac{1}{2}$	. .	. .	. .	0.01–0.03 gm.
Soda, solution of.	Liquor sodæ.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
Sodium:							
arsenate.	Sodii arsenas.	. . .	$\frac{1}{20}$–$\frac{1}{10}$	. .	. .	. .	0.002–0.006 gm.
arsenate exsiccated.	arsenas exsiccatus.	. . .	$\frac{1}{40}$–$\frac{1}{15}$	. .	. .	. .	0.0016–0.004 gm.
benzoate.	benzoas.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
bicarbonate.	bicarbonas.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
borate.	boras.	Borax.	5–15	. .	. .	. .	0.3–1.0 gm.
carbonate.	carbonas.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
hypophosphite.	hypophosphis.	. . .	5–10	. .	. .	. .	0.3–0.6 gm.
iodid.	iodidum.	. . .	5–30	. .	. .	. .	0.3–2.0 gm.
nitrite.	nitris.	. . .	1–4	. .	. .	. .	0.06–0.26 gm.
phosphate.	phosphas.	. . .	30–120	. .	. .	. .	2–8 gm.
salicylate.	salicylas.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
sulphate.	sulphas.	Glauber's salt.	(1 dr. to $\frac{1}{2}$ oz.)	. .	. .	. .	4–15 gm.
Squill:	Scilla.						
fluidextract.	Fluidextractum scillæ.	. . .	. .	. .	. .	1–5	0.06–0.3 c.c.
syrup of.	Syrupus scillæ	. . .	. .	. .	$\frac{1}{2}$–1	. .	2–4 c.c.
tincture of.	Tinctura scillæ.	. . .	. .	. .	. .	10–20	0.6–1.2 c.c.
Stillingia, fluidextract.	Fluidextractum stillingiæ.	Queen's root.	. .	. .	. .	10–60	0.6–4.0 c.c.
Stramonium.	. . . .	Jamestown weed. Thorn-apple.					
seeds, extract of.	Extractum stramonii seminis.	. . .	$\frac{1}{6}$–$\frac{1}{2}$	. .	. .	. .	0.01–0.03 gm.
tincture of.	Tinctura stramonii seminis.	. . .	. .	. .	. .	10–20	0.6–1.2 c.c.
Strophanthus, tincture of.	Tinctura strophanthi.	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Strophantin.	. . . .	. . .	$\frac{1}{100}$–$\frac{1}{60}$	. .	. .	. .	0.0006–0.0013 gm.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℔	♏	
Strychnin.	Strychnina.	. . .	1/60–1/30	. .	. .	. .	0.001–0.003 gm.
Sulphonal.	Sulphonmethanum.	. . .	10–30	. .	. .	. .	0.6–2.0 gm.
Sulphur (roll):	Sulphur.	Brimstone.	60–120	. .	. .	. .	4–8 gm.
sublimed.	sublimatum.	. . .	60–120	. .	. .	. .	4–8 gm.
Sumbul:							
extract.	Extractum sumbul.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
fluidextract.	Fluidextractum sumbul.	. . .	. .	. .	1/2–1	. .	2–4 c.c.
tincture.	Tinctura sumbul.	. . .	. .	. .	1/2–1	. .	2–4 c.c.
Suprarenal glands, desiccated.	Glandulæ suprarenales siccæ.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
Tannalbin.	. . . .	. . .	5–15	. .	. .	. .	0.3–1.0 gm.
Tannigin.	. . . .	. . .	5–15	. .	. .	. .	0.3–1.0 gm.
Tannoform.	. . . .	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
Terebene.	Terebenum.	. . .	. .	. .	. .	5–10	0.3–0.6 c.c.
Terpin hydrate.	Terpini hydras.	. . .	2–10	. .	. .	. .	0.13–0.6 gm.
Terpinol.	Terpinol.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
Theobromin.							
sodium salicylate.	. . . .	Diuretin.	10–20	. .	. .	. .	0.6–1.2 gm.
Thymol.	Thymol.	. . .	5–20	. .	. .	. .	0.3–1.2 gm.
Thyroid gland, desiccated.	Glandulæ thyroideæ siccæ.		1–5	. .	. .	. .	0.06–0.3 gm.
Tinctures:							
aconite.	Tinctura aconiti.	. . .	. .	. .	. .	5–15	0.03–1.0 c.c.
aloes.	aloes.	. . .	. .	. .	1–2	. .	4–8 c.c.
asafetida.	asafœtidæ.	. . .	. .	. .	1/2–1	. .	2–4 c.c.
belladonna.	belladonnæ.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
benzoin.	benzoini.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
compound.	composita.	. . .	. .	. .	. .	30–60	2–4 c.c.
cactus.	cacti grandiflori.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
calumba.	calumbæ.	. . .	. .	. .	1/2–2	. .	2–8 c.c.
cannabis indica.	cannabis indicæ.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.
cantharides.	cantharidis.	. . .	. .	. .	. .	1–10	0.06–0.6 c.c.
capsicum.	capsici.	. . .	. .	. .	. .	10–30	0.6–2.0 c.c.
cardamom compound.	cardamomi composita.	. . .	. .	. .	1–2	. .	4–8 c.c.
chirata.	chiratæ.	. . .	. .	. .	1–4	. .	4–15 c.c.
cimicifuga.	cimicifugæ.	. . .	. .	. .	1–2	. .	4–8 c.c.
cinchona.	cinchona.	. . .	. .	. .	1/2–1	. .	2–4 c.c.
compound.	composita.	. . .	. .	. .	1–4	. .	4–15 c.c.
colchicum-seed.	colchici seminis.	. . .	. .	. .	1/2–1	. .	2–4 c.c.
cubeb.	cubebæ.	. . .	. .	. .	1/2–2	. .	2–8 c.c.
digitalis.	digitalis.	. . .	. .	. .	. .	5–20	0.3–1.2 c.c.
ferric chlorid.	ferri chloridi.	. . .	. .	. .	. .	5–30	0.3–2.0 c.c.

Tinctures:							
gelsemium.	gelsemii.					5–10	0.3–0.6 c.c.
gentian compound.	gentianæ composita.						2–8 c.c.
guaiac.	guaiaci.				½–2		2–4 c.c.
ammoniated.	ammoniata.				½–1		2–4 c.c.
hydrastis.	hydrastis.				½–1		2–8 c.c.
hyoscyamus.	hyoscyami.				½–2		2–4 c.c.
kino.	kino.				½–1		4–8 c.c.
krameria.	krameriæ.				1–2		4–8 c.c.
lobelia (expectorant).	lobeliæ.				1–2		0.3–1.3 c.c.
musk.	moschi.					5–20	4–8 c.c.
nux vomica.	nucis vomicæ.				1–2		0.3–1.2 c.c.
opium.	opii.					5–20	0.6–1.2 c.c.
camphorated.	camphorata.					10–20	2–15 c.c.
deodorized.	deodorati.				¼–4		0.6–1.2 c.c.
physostigma.	physostigmatis.					10–20	0.3–1.2 c.c.
quassia.	quassiæ.					5–20	2–4 c.c.
rhubarb.	rhei.				½–1		4–8 c.c.
sanguinaria.	sanguinariæ.				1–2		0.3–2.0 c.c.
squill.	scillæ.					5–30	0.6–1.2 c.c.
stramonium seed.	stramonii seminis.					10–20	0.6–1.2 c.c.
strophanthus.	strophanthi.					10–20	0.3–0.6 c.c.
sumbul.	sumbul.					5–10	2–4 c.c.
valerian.	valerianæ.				½–1		2–4 c.c.
ammoniated.	ammoniata.				½–1		2–4 c.c.
veratrum.	veratri.				½–1		0.3–1.0 c.c.
Trional.	Sulphonethylmethanum.		10–30			5–15	0.6–2.0 gm.
Turpentine, oil of.	Oleum terebinthinæ.					5–20	0.3–1.2 c.c.
Urethane.	Urethanæ.		10–30				0.6–2.0 gm.
Urotropin.	Hexamethylamina.		1–5				0.06–0.3 gm.
Uva ursi:							
fluidextract of.	Fluidextractum uvæ ursi.				1–4		4–15 c.c.
Valerian:	Valeriana.						
fluidextract of.	Fluidextractum valerianæ.				½–1		2–4 c.c.
tincture of.	Tinctura valerianæ.				1–4		4–15 c.c.
ammoniated.	ammoniata.				½–1		2–4 c.c.
Veratrum:		American hellebore.					
fluidextract of.	Fluidextractum veratri.					1–3	0.06–0.2 c.c.
tincture of.	Tinctura veratri.					5–15	0.3–1.0 c.c.
Viburnum, fluidextract.	Fluidextractum viburni opuli.	Cramp bark.			1–2		4–8 c.c.
Warburg's tincture.					4		15 c.c.

English name.	Latin official name.	Synonym or popular name.	Dose.				
			gr.	f℥	f℥	♏	
Whisky.	Spiritus frumenti.	. . .	. .	. .	1–8	. .	4–30 c.c.
Wild-cherry bark:	Prunus virginiana.						
fluidextract.	Fluidextractum pruni virginianæ.	. . .	. .	. .	½–1	. .	2–4 c.c.
infusion of.	Infusum prunum virginianæ.	. . .	. .	. .	4–8	. .	15–30 c.c.
syrup of.	Syrupus pruni virginianæ.	. . .	. .	. .	½–4	. .	2–15 c.c.
Wintergreen, oil of.	Oleum gaultheriæ.	Oil of gaultheria.	. .	. .	. .	10–30	0.6–2.0 c.c.
Wormseed, oil of.	Oleum chenopodii.	Oil of chenopodium.	. .	. .	. .	5–10	0.3–0.6 c.c.
Zinc:							
bromid.	Zinci bromidum.	. . .	½–2	. .	. .	. .	0.03–0.2 gm.
oxid.	oxidum.	. . .	1–5	. .	. .	. .	0.06–0.3 gm.
phosphid.	phosphidum.	. . .	1/20–1/10	. .	. .	. .	0.003–0.006 gm.
sulphate (emetic).	sulphas.	. . .	10–20	. .	. .	. .	0.6–1.3 gm.
sulphocarbolate.	phenosulphonas.	. . .	2–3	. .	. .	. .	0.13–0.2 gm.
valerate.	valeras.	. . .	¼–1	. .	. .	. .	0.016–0.06 gm.

ABBREVIATIONS.

āā., *ana*, equal parts of each.
A. c., *ante cibum*, before meals.
Add., *adde*, add to it.
Ad. lib., *ad libitum*, as you please.
Alt. dieb., *alterna diebus*, every other day.
Alt. hor., *alternâ horis*, every other hour.
Alt. noc., *alternâ nocte*, every other night.
Ante cib., *ante cibum*, before meals.
Applic., *applicatur*, apply.
Aq., *aqua*, water.
Aq. font., *aqua fontana*, spring water.
Aq. bull., *aqua bulliens*, boiling water.
Aq. dest., *aqua destillata*, distilled water.
Aq. mar., *aqua marina*, sea-water.
Aq. pluv., *aqua pluvialis*, rain-water.
Aq. pur., *aqua pura*, pure water.
Bis hor, or *bis horis*, every two hours.
Bis in d., *bis in die*, twice a day.
Bull., *bulliat*, let it boil.
C. or Cong., *congius*, a gallon.
c. c., cubic centimetre.
Cap., *capiat*, let him take.
Cent., centigrade.
Cochleat., *cochleatim*, by spoonfuls.
Cochl., *cochleare*, spoonful.
Coch. mag., *cochleare magnus*, a tablespoon.
Coch. med., *cochleare medium*, a dessertspoon.
Coch. parv., *cochleare parvum*, a teaspoon.
Comp., *compositus*, compound.
Conf., *confectio*, a confection.
Cort., *cortex*, bark.
Cuj., *cujus*, of which.
Decoct. hord., *decoctum hordei*, barley-water.
Decub., *decubitus* (a bed), lying down.
Destil., *destilla*, distil.
Det., *detur*, let it be given.
Dil., *dilutus*, dilute.
Dim., *dimidius*, one-half.
Div., *dividendus*, divide.
Div. in p. æq., *dividatur in partes æquales*, divide into equal parts.
Drachm., *drachma*, a drachm.
Duo., *duo*, two.
Emp., *emplastrum*, a plaster.
Enem., enema.
Extr., *extractum*, extract.
F., Fahrenheit.
F. mist., *fiat mistura*, make a mixture.
Far., faradic.
Fe., *ferrum*, iron.
Filt., *filtra*, filter.
F. pil., *fiat pilula*, make a pill.
Fot., *fotus*, a fomentation.
Freq., *frequenter*, frequently.
Fl., or **f.**, *fluidus*, fluid.
Ft., *fiat*, let there be made.
f℥, *fluidrachma*, fluidrachm.
f℥, *fluiduncia*, fluidounce.
Garg., *gargarisma*, a gargle.
Gm., gramme.
Gossyp., *gossypium*, cotton-wool.
Gr., *granum*, a grain, or *grana*, grains.
Gtt., *gutta*, a drop, or *guttæ*, drops.
Guttat., *guttatim*, by drops.
Hg., *hydrargyrum*, mercury.

Hirud., *hirudines*, leeches.
Hor. decub., *hora decubitûs*, at bed-time.
Ind., *in dies*, daily.
Inf., *infusum*, an infusion.
Inject., *injectio*, an injection.
Lat. dol., *lateri dolenti*, to the affected side.
L., litre.
Lb., *libra*, a pound.
Lib. or lbs., *libræ*, pounds.
Lim., *limones*, lemons.
Liq., *liquor*.
Lot., *lotio*, a lotion.
M., *misce*, mix.
♏, *minimum*, a minim.
Mac., *macera*, macerate.
Man., *manipulus*, a handful.
Mass. pil., *massa pilularum*, pill-mass.
Mel., *mellita*, honey.
Mist., *mistura*, a mixture.
No., *numero*, in number.
Noct., *nocte*, at night.
O., *octarius*, a pint.
Ol., *oleum*, oil.
Ol. oliv., *oleum olivæ*, olive oil.
O. m., *omni mane*, every morning.
Ov., *ovum*, an egg.
Oz., *uncia*, ounce.
P. or Pug., *pugillus*, a pinch.
P. c., *post cibum*, after meals.
Pil., *pilula*, a pill.
Pond., *pondere*, by weight.
Pt., pint.
P. R. N., *pro re natâ*, as occasion arises.
Pulv., *pulvis*, a powder.
Q. d., *quarter in die*, four times a day.
Q. P., *quantum placet*, as much as you please.
Q. S., *quantum sufficit*, as much as is sufficient.
Qt., quart.
Quotid., *quotidie*, every day.
Q. V., *quantum vis*, as much as you wish.
℞., *recipe*, take.
Rad., *radix*, root.
Rect., *rectificatus*, rectified.
S. or Sig., *signa*, write.
Scr., *scrupulum*, scruple.
Sem., *semen*, seed.
Sol., solution.
Spr., *spiritus*, spirit.
Sp. gr., specific gravity.
St., *stet*, let it stand.
SS. or s., *semissis*, a half.
Sum., *sumendus*, to be taken.
S. V. G., *spiritus vini gallici*, brandy.
S. V. R., *spiritus vini rectificatus*, alcohol.
S. F., *spiritus frumenti*, whiskey.
Syr., *syrupus*, syrup.
T., temperature.
T., *ter*, three times.
T. i. d., *ter in die*, three times a day.
Tr., *tinctura*, tincture.
Troch., *trochisci*, lozenges.
Ung., *unguentum*, ointment.
W., weight.
ʒ, *drachma*, a drachm.
℥, *uncia*, an ounce.
℈, *scrupulum*, a scruple.
2 dis., every two hours.
3 tis., every three hours.
4 tis., every four hours.
6 tis., every six hours.

GLOSSARY.

The principal terms used in Materia Medica and Therapeutics, together with a Miscellaneous List of the newest drugs.

Abluent. Cleansing.

Abort. 1. To miscarry. 2. To arrest the development of a disease.

Abortient, Abortifacient. Causing abortion; also a drug which causes abortion.

Absolute alcohol. Alcohol free from water and other impurities. The absolute alcohol of the Pharmacopeia should contain not more than 1 per cent. of water.

Absorbent. 1. Sucking up moisture. 2. A medicine which absorbs or which stimulates absorption.

Abstract. A powdered preparation made from a drug or fluid extract mixed with milk-sugar and having twice the strength of the original drug.

A.-C.-E. mixture. An anesthetic mixture of 1 part of alcohol, 2 parts of chloroform, and 3 parts of ether.

Acetone. A colorless liquid with an acrid taste and a sharp odor. It is anesthetic and anthelmintic. Dose, 15 to 20 min. (0.9–1.3 c.c.).

Acetozone. A mixture of benzoylacetyl peroxid with some inert substance. It is used internally and externally as an antiseptic. Dose, 2 to 5 gr. (0.13–0.3 gm.).

Acetum. A medicinal preparation with vinegar or dilute acetic acid.

Acrid. Sharp, burning.

Actol. Silver lactate, used as an antiseptic.

Acupuncture. The insertion of needles into a part for the purpose of producing counterirritation.

Adjuvant. A remedy which assists the action of another.

Affusion. 1. Treatment by pouring water upon the body. 2. A liquid poured upon the body.

Agaricin. A principle derived from white agaric, used in night-sweats of phthisis. Dose, ¼ to 1 gr. (0.016–0.06 gm.).

Agurin. A double salt of sodium acetate and theobromin, used as a diuretic.

Airol. Bismuth oxyiodogallate, or dermatol with the addition of iodin, used as a substitute for iodoform.

Albolene. A refined petroleum product, equivalent to petrolatum.

Alkali. Any one of a class of substances having an acrid taste and caustic properties, combining with oil or fat to form soap, and turning red litmus blue.

Alkaloid. A nitrogenous compound occurring in plants, capable of uniting with acids to form salts.

Alterative. A drug that favorably modifies the general nutrition without exerting any demonstrable influence on any particular organ.

Ammonol. A preparation said to contain acetanilid, sodium bicarbonate, and ammonium carbonate.

Amyloform. A white powder, a compound of starch and formaldehyd. It is used as an antiseptic and deodorizer.

Analeptic. 1. Restorative; cordial. 2. A restorative medicine.

Analgesic. A medicine that relieves pain.

Anesthesia. Insensibility to pain.

Anesthesin. A complex compound used as a local anesthetic.

Anesthetic. An agent that produces insensibility to pain.

Anhidrotic. Arresting the secretion of sweat; also, a medicine so acting.

Anilin. A colorless, oily liquid from coal-tar. Combined with other substances it forms the anilin colors or dyes.

Anodyne. An agent or medicine that relieves pain.

Antacid. A medicine that neutralizes acidity.

Antagonist. A drug that destroys or interferes with the effect of another.

Anthelmintic. A remedy for the destruction and expulsion of worms.

Anthrarobin. A yellowish powder derived from alizarin, used in ointment in skin-diseases.

Antiarthritic. Useful in gouty conditions.

Anticholerin. A derivative from cultures of cholera bacilli, used in cholera.

Anticonvulsive. Useful against convulsions.

Antidote. A remedy which counteracts the action of poisons.

Anti-emetic. A remedy which lessens nausea and vomiting.

Antifebrile. Reducing fever.

Antigalactic. Diminishing the secretion of milk.

Antihydropin. A diuretic substance obtained from cockroaches. Dose, 10 to 20 gr. (0.6–1.3 gm.).

Antikamnia. A patent anodyne and antipyretic preparation, said to be a mixture of acetanilid, sodium bicarbonate, caffein, and tartaric acid. Dose, 4 to 10 gr. (0.26–0.65 gm.).

Antilithic. A remedy which acts on the kidneys, preventing the formation of calculi.

Antiluetic. Same as *Antisyphilitic.*

Antimigraine. A mixture of caffein, antipyrin, and sugar, used in migraine.

Antiparasitic. Destroying or preventing the access of parasites.

Antiperiodic. A medicine preventing the return of periodic symptoms, especially malarial attacks.

Antiphlogistic. An agent that reduces inflammation or fever.

Antipruritic. Relieving or preventing itching.

Antipyretic. A remedy for reducing temperature; a febrifuge.

Antirheumatic. Relieving or preventing rheumatism.

Antiscorbutic. 1. Preventing scurvy. 2. A remedy for scurvy.

Antisepsin. An odorless, tasteless, crystalline substance, used as an antipyretic, analgesic, and antiseptic. Dose, ½ to 1 gr. (0.03–0.06 gm.).

Antiseptic. Preventing the growth of germs and of putrefaction.

Antiseptol. A reddish-brown powder, the iodosulphate of quinin, used as a substitute for iodoform.

Antisialic. An agent that decreases the flow of saliva.

Antispasmin. A combination of narcein-sodium and sodium salicylate. It is hypnotic and sedative in painful and convulsive conditions, especially whooping-cough.

Antispasmodic. A medicine which cures or counteracts a spasm.

Antisyphilitic. Relieving syphilis or its symptoms.

Antithermic. Same as *Antipyretic.*

Antitoxin. A substance formed in the blood of an animal as a result of the inoculation of a poison, and acting as a neutralizer of that poison.

Antivenene. Blood-serum from animals immunized against snake-bite.

Antizymotic. An agent or medicine that arrests fermentative processes.

Anusol. The iodoresorcin sulphonate of bismuth, used as a remedy for hemorrhoids and catarrh, fissure, and pruritus of the rectum and vagina.

Apocodein. A derivative of codein, used as an expectorant in bronchitis. Dose, ⅛ to 1 gr. (0.05–0.65 gm.).

Apolysin. Phenetidin citrate, with properties resembling phenacetin. Dose, 5 to 30 gr. (0.3–2.0 gm.).

Aqueous. Watery; prepared with water.

Aqueous extract. A solid preparation of drugs made from watery or aqueous solutions.

Arecolin. An alkaloid obtained from the betel-nut. A 1 per cent. solution is sometimes used in place of eserin to contract the pupil of the eye.

Argentamin. A solution of silver phosphate in ethylendiamin, used as an antiseptic, especially in catarrhal conditions of the nose and throat.

Argonin. A compound of silver with casein, used for gonorrhea in 2 per cent. solution.

Argyrol. A compound of silver with an albuminous substance, obtained from wheat, containing 30 per cent. of silver. It is used as an antiseptic in solutions of from 5 to 20 per cent. in inflammatory diseases of mucous membranes.

Aristoquinin. A tasteless preparation of quinin (diquinin carbonic ether). Dose, 5 to 10 gr. (0.3–0.6 gm.).

Aromatic. A medicine having a spicy odor and taste, and stimulant to the gastro-intestinal mucous membrane.

Aseptic. Free from germs and septic material.

Aseptol. A reddish, syrupy liquid, used as an antiseptic in diseases of the bladder, eye, and skin.

Asparagin. A derivative of asparagus, used as a diuretic. Dose, ½ to 2 gr. (0.03–0.13 gm.).

Aspidospermin. An alkaloid from the bark of quebracho, used in affections of the respiratory tract, such as asthma, etc. Dose, ¼ to ½ gr. (0.016–0.03 gm.).

Aspirin. Acetyl salicylic acid, used like salicylates in rheumatism. Dose, 5 to 20 gr. (0.3–1.3 gm.).

Astringent. A medicine which causes contraction of the tissues and arrests the flow of secretions.

Bactericide. An agent that destroys bacteria.

Base. 1. The chief ingredient in a prescription. 2. A substance which can combine with acids to form salts.

Bebeerin. An alkaloid from *Nectandra rodiæi*. The sulphate is used as an antiperiodic. Dose, 2 to 5 gr. (0.15–0.3 gm.).

Benzonaphthol. A white, crystalline powder, used as an intestinal antiseptic, especially for children. Dose, 4 to 8 gr. (0.25–0.5 gm.). For children, according to age.

Bismutan. A yellow powder with a sweet taste, said to contain bismuth, resorcin, and tannic acid. Used in the diarrhea of children. Dose, 8 to 15 gr. (0.52–0.97 gm.).

Bismutose. An insoluble, odorless, and tasteless bismuth-albumin compound. Dose, 10 to 20 gr. (0.6–1.3 gm.).

Bitters. Medicines having a bitter taste and increasing the tone of the gastro-intestinal mucous membrane. They are divided into *simple bitters*, or those which simply stimulate the digestive tract; and *aromatic bitters*, or those that have the properties of aromatics as well.

Bromipin. A combination of bromin with oil of sesame, used as a substitute for the bromids. Dose, 1 to 3 dr. (4–12 c.c.).

Bromocoll. A combination of bromin, tannic acid, and gelatin, used as a substitute for the bromids.

Cachet (kah-sha'). A wafer or capsule for medicines.

Cacodylates. Combinations of arsenous acid with an organic base (methyl), comparatively non-toxic. Dose, ½ to 2 gr. (0.03–0.13 gm.), hypodermically.

Cactina. A preparation of night-blooming cereus, said to be a heart-stimulant.

Calmative. A calming, sedative medicine.

Capsule. A soluble case for inclosing a dose of medicine.

Cardiac. Relating to the heart.

Cardiac sedative. A drug that decreases the force of the heart's action.

Cardiac stimulant. A drug that increases the force of the heart's action.

Cardiant. A medicine affecting the heart.

Carminative. A medicine expelling gas from the stomach and bowels.

Carpain. Active principle from *Carica papaya*, used like digitalis in heart-affections. Dose, hypodermically, $\frac{1}{16}$ to $\frac{1}{8}$ gr. (0.006–0.01 gm.).

Cataphoresis. Introduction of medicines into the system by means of the electric current.

Cataplasm. A poultice.

Cathartic. Purgative; also a purgative medicine.

Caustic. A substance which burns and destroys the life of the part to which it is applied.

Cauterant. A caustic material or application.

Cerate. A greasy substance consisting of wax mixed with oils, fatty substances, or resins, and of such consistence that at ordinary temperature it can be readily spread upon linen or muslin, and yet so firm that it will not melt or run when applied to the skin.

Cerebral sedative. An agent which decreases the activity of the brain.

Cerebral stimulant. An agent which increases the activity of the brain.

Cetaceum. Spermaceti.

Cetrarin. An alkaloid from Iceland moss, used as a stomachic. Dose, 3 to 6 gr. (0.2–0.4 gm.) in pill form.

Chaulmoogra oil. A fatty substance obtained from seed of *Gynocardia odorata*. It is used internally and locally in leprosy. Dose, 10 to 30 min. (0.6–2.0 c.c.).

Chinosol. An antiseptic, bactericide, and disinfectant. It is used locally in solutions of from 1 : 1000 to 1 : 100.

Chloretone. A compound formed by acting on equal parts of chloroform and acetone with caustic potash. It is used internally as a hypnotic, and externally as an antiseptic. Dose, 5 to 20 gr. (0.3–1.3 gm.).

Cholagogue. A remedy that increases the secretion of bile.

Cicatrizant. An agent which promotes cicatrization.

Cinnamic acid. An acid occurring naturally in Peru and tolu balsams and also prepared artificially. It has been used in the treatment of tuberculosis.

Cocainism. Chronic poisoning from the improper use of cocain.

Collargolum. A soluble form of metallic silver, recommended both internally and locally in septic diseases.

Collutory. A mouth-wash or gargle.

Collyrium. An eye-lotion.

Compatibility. The quality of being suitable for administration with another specified medicine.

Condurango. The bark of *Gonolobus condurango*, used as an alterative in syphilis and cancer. Dose of fluid extract, 20 to 30 min. (1.2–2.0 c.c.).

Confection. A mixture of a medicinal substance with sugar, honey, or syrup.

Contraindication. A condition which forbids any particular course of treatment.

Convolvulin. A derivative from *Ipomæa purga*, used as a purgative. Dose, $1\frac{1}{2}$ to 3 gr. (0.09–0.18 gm.).

Convulsant. A medicine that produces convulsions.

Cornutin. One of the principles of ergot. It is a brownish powder. It is recommended to relieve uterine hemorrhage and to increase the vigor of labor-pains. Dose, $\frac{1}{20}$ to $\frac{1}{6}$ gr. (0.003–0.01 gm.).

Coronilla. A plant, of which the tincture and the powder from the flowers are used as heart-tonics.

Corrective. A drug which modifies the action of another drug.

Corrosive. Eating away the tissues; also, a substance so acting.

Cosaprin. A derivative of acetanilid. It is a grayish powder with antipyretic properties.

Cosmetic. A substance used for beautifying.

Counterirritant. An agent which produces counterirritation.

Counterirritation. Irritation applied at some part to relieve pain, reduce inflammation, or hasten absorption at another point having

some vascular or nervous connection with the first part.

Credé's ointment. An ointment containing 15 per cent. of soluble metallic silver. It is recommended as an application in septic inflammation and erysipelas.

Creosotal. Creosote carbonate, an oily liquid, used as an expectorant. Dose, 5 to 10 min. (0.3–0.6 c.c.).

Cumulative action. A sudden marked effect after the administration of a number of ineffective doses of a drug.

Decoction. The extract obtained from any substance by boiling it in water.

Deliquescent. Having a tendency to become liquid by absorbing moisture from the air.

Delirifacient. A medicine that produces delirium.

Demulcent. A remedy which soothes sensitive surfaces and protects them from irritation.

Dentifrice. A tooth-powder or tooth-paste.

Deobstruent. A medicine which removes obstructions; an aperient.

Deodorant. A substance that will remove or correct offensive odors.

Deodorizer. Destroyer of odors.

Deoxidize. To deprive of oxygen.

Depilatory. An agent that destroys or removes the hair.

Depressomotors. Drugs that lessen muscular activity by depressing the spinal cord or peripheral nerves.

Depurant, Depurative. Purifying; cleansing; also, a cleansing medicine.

Derivative. A medicine or agent drawing blood from the seat of disease.

Desiccant, Desiccative. Promoting dryness; drying.

Detergent. Cleansing; a cleansing medicine or lotion.

Diabeten. A trade name for levulose or fruit-sugar.

Diaphoretic. A remedy which increases the perspiration.

Digestant, Digestive. A remedy which aids digestion; a digestive tonic.

Diluent. An agent that dilutes.

Dionin. An artificial alkaloid prepared from morphin. It has properties similar to codein. Dose, ¼ to ½ gr. (0.016–0.03 gm.).

Disinfectant. An agent which destroys germs.

Distillation. The process of converting a substance into vapor, then condensing the vapor into a liquid by cooling.

Diuretics. Medicines which increase the flow of the urine. They are distinguished as *alterative diuretics*, or those that are used for their local effects on the surfaces over which they pass, and *hydragogue diuretics*, or those that increase the flow of water from the kidneys.

Dose. A portion of medicine to be taken at one time.

Draught. A liquid medicine to be swallowed in a single dose.

Ecbolic. A medicine which hastens labor or expels the contents of the pregnant uterus.

Efflorescent. Becoming powdery by losing the water of crystallization.

Electuary. A preparation made by mixing powders with syrup, honey, or other sweet vehicle.

Elixir. A solution of a medicinal substance in alcohol and water and flavored with aromatics.

Embrocation. A liquid to be applied to the body with the hand.

Emesis. Vomiting.

Emetic. A medicine to produce vomiting. A *peripheral* emetic acts on the nerves of the stomach; a *centric* emetic acts on the vomiting center in the brain.

Emmenagogue. A medicine which promotes the flow of the menses. A *direct emmenagogue* acts directly on the sexual organs; an *indirect emmenagogue* acts by relieving some causative condition.

Emollient. A softening and soothing application or liniment.

Emplastrum. A plaster.

Emulsion. An oily or resinous medicine, suspended in water through the agency of adhesive substances.

Eosote. Valerianate of creosote,

used in tuberculosis and as an intestinal antiseptic. It is given in capsules containing 3 gr. (0.2 gm.).

Epicarin. A compound combining the properties of creosote and naphthol, especially recommended as a local remedy in parasitic skin-diseases.

Epispastic. A blistering agent.

Errhine. A remedy which increases the discharge from the mucous membranes of the nostrils.

Erythrol tetranitrate. A compound having an action like nitroglycerin. Dose, ½ to 2 gr. (0.03–0.13 gm.).

Escharotic. See *Caustic*.

Essence. A strong solution of one part of volatile oil in four of rectified spirits.

Essential oil. A volatile oil; one obtained by distillation.

Eucain. An artificial alkaloid; a local anesthetic. Used like cocain, in ½ to 2 per cent. solutions.

Euchinin. A product of the action of ethylchlorocarbonate on quinin, having properties like quinin without its disagreeable symptoms.

Eudoxin. A red powder, the bismuth salt of nosophen, used as an intestinal antiseptic.

Eunatrol. Oleate of sodium, recommended as a cholagogue and solvent of gall-stones. Dose, 3 to 5 gr. (0.2–0.3 gm.).

Euphthalmin. An artificial alkaloid derived from eucain, and used in solutions of from 4 to 6 per cent. to dilate the pupil of the eye.

Evacuant. A medicine which empties the bowels.

Excipient. An inactive substance added to the active medicines of a prescription to give it a suitable form or bulk.

Excitant. A medicine which arouses functional activity.

Excitomotor. An agent that excites motion and functional activity; a stimulant to the spinal cord.

Exhilarant. A remedy that causes elation of spirits.

Expectorant. A medicine which modifies or increases the expectoration.

Extract. A medicinal preparation made by extracting the ingredients of vegetable substances by means of alcohol, water, or water and alcohol. An extract is a solid preparation; a fluid extract is a liquid preparation. Official fluid extracts are liquid preparations in which each cubic centimeter contains the active ingredients of one gram of the crude drug.

Febrifuge. An agent for allaying fever.

Febrile. Relating to fever.

Ferment. An agent that can cause chemic decomposition in an organic compound.

Ferratin. A reddish-brown powder, said to be an iron-compound from hog's liver. Dose, 2 to 5 gr. (0.13–0.33 gm.).

Filtrate. A liquor which has passed through a filter.

Flatulence. Accumulation of gas in the stomach or intestine.

Galactagogue. Increasing the flow of milk; also a medicine so acting.

Gallobromol. A white, crystalline substance, used like potassium bromid in nervous disorders. Dose, 7½ gr. to 2 dr. (0.5–8.0 gm.).

Gelatin. The air-dried product of the action of boiling water on gelatinous animal tissues, such as tendons, ligaments and bones. It has the property of increasing the coagulability of the blood, and is used locally, by the mouth, and hypodermically to arrest hemorrhage.

Geosote. Valerianate of guaiacol.

Germicide. An agent or drug that destroys microbes.

Glucosid. A body extracted from certain vegetable drugs, capable of being converted into glucose.

Glutol. A combination of formalin with gelatin, used as a local disinfectant.

Glycerite. A mixture of a medicine with glycerin.

Granule. A small pill.

Hedonal. A complex compound used as a hypnotic. Dose, 10 to 30 gr. (0.6–2.0 gm.).

Helmital. The methylene citronate of urotropin, used as a urinary antiseptic. Dose, 5 to 10 gr. (0.3–0.6 gm.).

Hematinic. An agent that increases the hemoglobin in the blood.

Hemogallol. A reddish-brown powder, obtained by the action of pyrogallol on the hemoglobin of the blood. It is used in anemia and chlorosis. Dose, 3 to 8 gr. (0.2–0.5 gm.).

Hemoglobin. The red coloring-matter of blood, used in anemia and chlorosis. Dose, 1½ to 3 gr. (0.1–0.18 gm.).

Hemol. A blackish-brown powder, obtained by the action of zinc-dust on the coloring-matter of blood, used in chlorosis. Dose, 1½ to 7½ gr. (0.1–0.5 gm.).

Hemostatic. An agent to arrest a flow of blood.

Holocain. A derivative of phenetidin, used as a local anesthetic, especially in surgery of the eye.

Hydragogue. A purgative which causes the discharge of water from the system.

Hyperpyrexia. Excess of fever.

Hypnotic. Agent for causing sleep.

Hypodermic, Hypodermatic. Under the skin; a term applied to injections made under the skin by means of a hypodermic syringe.

Hypodermoclysis. Injection of fluid into the subcutaneous tissues.

Idiosyncrasy. An individual peculiarity in regard to the action of certain drugs, their action and effect being entirely different from what are expected.

Incompatible. Not suitable for combination or administration together: said of two medicines or drugs.

Infusion. A medicinal preparation made by extracting the active principles of a substance by pouring hot or cold water upon it and letting it stand.

Inoculation. The insertion of diseased fluid from the body of one creature into the body of another, as calf-lymph is used for vaccination.

Insufflation. A fine medicated powder intended to be blown into the nose or throat.

Iodoformogen. A preparation of iodoform and albumin, used as an odorless substitute for iodoform.

Irrigation. Washing by a stream of water or other lotion.

Irritant. An agent that causes irritation.

Isinglass. The dried swimming-bladder of certain species of fish. It is used externally as a protective.

Itrol. Silver citrate; used in the treatment of gonorrhea.

Izol. A disinfectant and germicide, produced in the manufacture of coke. It is said to be superior to carbolic acid. Used in strength of ½ to 1 per cent.

Jequirity. The seed of *Abrus precatorius*, growing in India and Brazil. It is sometimes used in the form of a 3 per cent. infusion as a local remedy in chronic conjunctivitis.

Kaolin. A fine clay used as a dusting-powder in skin diseases and as an excipient in making certain pills.

Kava-kava. The root and resin of *Piper methysticum;* used as a remedy in gonorrhea and cystitis. Dose of fluid extract, 15 to 60 min. (1–4 c.c.).

Keratin. A horny substance used for coating pills when the latter are intended to act on the bowel rather than on the stomach.

Kola. The seeds of *Kola acuminata;* used as a cardiac and nerve-stimulant.

Kryofin. A white crystalline coal-tar product, used as an antipyretic and analgesic. Dose, 4 to 7½ gr. (0.25–0.5 gm.).

Lactagogue. A medicine for inducing milk secretion.

Lamellæ. Thin scales or discs of medicinal substances.

Largin. A compound of silver and albumin, recommended for gonorrhea.

Laxative. A mild cathartic.

Lecithin. A preparation of phosphates, recommended in various nervous affections. Dose, 3 to 5 gr. (0.2–0.3 gm.).

Lethal dose. A deadly or fatal dose.

Liniment. A liquid for external application.

Liquor. A solution of a non-volatile mineral substance in water.

Lotion. A solution for external use: it may be evaporating or non-evaporating.

Lozenge. A sweet medicated tablet.

Lycetol. A compound used as a solvent of uric acid. Dose, 5 to 15 gr. (0.3–1.1 gm.).

Lysidin. A pinkish, crystalline substance, used as a solvent for uric acid. Dose, 1 to 5 gr. (0.065–0.33 gm.).

Lysoform. Formic aldehyd soap, used as an antiseptic and disinfectant in solution of from 5 to 10 per cent.

Maceration. The process of softening a solid by soaking.

Malakin. A salicylic derivative, used as an antipyretic and anodyne. Dose, 7½ to 15 gr. (0.5–1 gm.).

Materia medica. The branch of medical science which deals with drugs, their sources and preparation.

Menstruum. A solvent medium.

Mesotan. This is a liquid salicylic preparation recommended as a substitute for oil of wintergreen in the local treatment of rheumatic joints.

Migrainin. A preparation of antipyrin, caffein, and citric acid, used in migraine and influenza. Dose, 10 to 15 gr. (0.7–1 gm.).

Mixture. A medicine consisting of several liquids mixed together, or of a liquid containing solid matter in suspension.

Mucilage. Medicinal preparations of soluble gummy substances dissolved in water.

Mydriatic. A drug used to dilate the pupil of the eye.

Myotic. A drug which causes the pupil to contract.

Myrtol. A volatile oil distilled from the leaves of the European myrtle. It is used as a stimulant expectorant, resembling in its effects eucalyptol. Dose, 3 to 10 min. (0.2–0.6 c.c.).

Narcotic. A medicine which induces sleep.

Nauseant. A drug or agent that induces nausea.

Nerve-sedative. An agent which has a soothing influence on the nervous system.

Nervine. A drug increasing the tone of the nervous system; a nerve-tonic.

Niemeyer's pill. A pill containing one grain each of blue mass, powdered squill, and powdered digitalis. It is used as a cathartic and diuretic in removing dropsy.

Nosophen. A yellow powder, prepared by treating phenolphthalein with iodin; used as a local antiseptic.

Nutrient. Nourishing.

Official. Recognized by the U. S. Pharmacopeia.

Ointment. A fatty medicated preparation of such consistence that it melts when rubbed upon the skin. Ointments are prepared from lard, vaselin, or lanolin.

Oleaginous. Oily.

Oleate. A solution of a substance in oleic acid.

Oleoresin. A principle consisting of a mixture of a resin with a natural oil, extracted from vegetable substances by the action of ether.

Oleum. Oil.

Orphol. A compound of beta-naphthol and bismuth, used as an intestinal antiseptic and astringent. Dose, 5 to 15 gr. (0.32–1 gm.).

Orthoform. A new local anesthetic, being a synthetic cocain. Given also internally in doses of 7½ to 15 gr. (0.5–1 gm.).

Oxytocic. A medicine which promotes uterine contraction and thus hastens labor.

Pancreatin. The active principle of pancreatic juice.

Paraform. A white crystalline

substance, used as an antiseptic and disinfectant. Dose, 7½ to 15 gr. (0.5–1 gm.).

Parasiticide. An agent that destroys parasites on the skin.

Parturifacient. A medicine that facilitates childbirth.

Parvule. A small pill.

Pastille. A sugared confection; a lozenge.

Pellotin. A hypnotic alkaloid from a species of Mexican cactus. Dose, hypodermically, ⅓ to ⅔ gr. (0.02–0.04 gm.).

Pental. A colorless liquid, used as a general and local anesthetic. It has a tendency to depress the circulation.

Percolation. The extraction of the soluble parts of a drug by means of a liquid solvent.

Peronin. An artificial alkaloid, prepared from morphin, and used as a substitute for morphin. Dose, ¼ to ½ gr. (0.01–0.03 gm.).

Pharmacodynamics. The study of the action of drugs.

Pharmacography. The study of crude drugs and medicines.

Pharmacology. The science of drugs, especially of their actions.

Pharmacopeia. An authoritative treatise on drugs and their preparations.

Pharmacy. The art of preparing and compounding medicines.

Phosphorescence. Emission of light without heat.

Phototherapy. The treatment of disease by means of concentrated sunlight or electric arc-light.

Picric acid. An acid produced by the action of nitric acid on a combination of carbolic and sulphuric acid. A one per cent. solution is used as a sedative lotion in burns and acute inflammatory skin-diseases.

Placebo. A medicine given to gratify a patient or simply to affect his imagination.

Plasmins. Liquid derivatives of the cell-secretions of lower organisms, used to give immunity against the action of the organisms from which they are derived.

Prophylactic. 1. Warding off disease. 2. A medicine that tends to ward off disease.

Protargol. A yellowish powder, a combination of silver with albumin. Used as an antiseptic.

Protective. An agent used to cover a part, as collodion and gutta-percha.

Proteid. A non-crystallizable nitrogenous compound, such as egg-albumen, gluten, fibrin, and casein.

Protein. An artificial compound almost similar to white of egg.

Ptomain. An alkaloidal substance, produced by putrefactive processes in animal and vegetable tissues.

Pulver, Pulvis. A powder.

Purgative. Medicine that causes evacuation of the bowels.

Pustulant. A drug that produces pustules.

Pyramidon. A yellowish-white powder, derived from antipyrin, and used as an antipyretic and analgesic. Dose, 3 to 8 gr. (0.2–0.52 gm.).

Pyrexia. Elevation of temperature; fever.

Quinic acid. A substance obtained from various fruits and recommended as a solvent of uric acid and as a remedy for gout.

Rectified. Refined.

Refrigerant. An agent used to relieve fever and thirst.

Resin. A solid preparation obtained from certain plants and trees and allied to a volatile oil.

Resolvent. A medicine producing subsidence of a disease with restoration of parts to their normal condition.

Resorbin. An ointment-base prepared from pure almond-oil and wax by emulsion with water and adhesive solution.

Restorative. A remedy which restores to a condition of health and vigor.

Retinol. A hydrocarbon distilled from rosin; used as an ointment-basis and having stimulating, antiseptic properties.

Revulsant, Revulsive. A drug or measure adopted to draw blood from a distant part.

Rhigolene. The light, inflammable liquid distilled from petroleum; used in spray to produce local anesthesia.

Rhizome. The part of the root-stalk of a plant which grows underground.

Roborant. Giving strength; strengthening; also, a remedy so acting.

Rubefacient. An irritant which causes redness of the skin.

Sanatogen. A nutrient tonic, said to be a glycerin phosphate of sodium, and casein.

Sanoform. A derivative of iodin and oil of gaultheria, recommended as a substitute for iodoform.

Sanose. An albuminous food-preparation, said to contain casein and albumose.

Saturated solution. A solution containing all of that drug which the menstruum employed is capable of holding in solution.

Sedative. A soothing medicine.

Sialagogue. A medicine which increases the flow of saliva.

Sidonal. A combination of quinic acid and piperazin, recommended in gout. Dose, 5 to 20 gr. (0.3–1.3 gm.).

Sinapism. A mustard-plaster.

Solution. A liquid containing particles of a solid, gas, or another liquid diffused through it.

Solvent. Dissolving; also, an agent that acts by dissolving.

Somatose. A preparation consisting of the albuminous constituents of meat in a readily digestible form. It is recommended as a food in doses of from ½ to 1 ounce (15–30 gm.).

Somnifacient. A drug that induces sleep.

Soporific. An agent which induces sleep.

Sorbefacient. An agent producing absorption.

Specific. A medicine particularly indicated in, or especially curative of, a given disease.

Specific gravity. The weight of a substance compared with that of another.

Stimulant. An agent which increases functional activity; stimulants may be general or local.

Stomachic. A medicine which acts as a stimulant to the stomach.

Styptic. A remedy to check bleeding; an astringent.

Styracol. A combination of guaiacol and cinnamyl chlorid, used as an antiseptic in the treatment of tuberculosis.

Subcutaneous. Beneath the skin.

Sublamin. A compound of mercury sulphate and ethylendiamin. It is used as an antiseptic in solutions of from 1 : 5000 to 1 : 1000.

Succus. Juice.

Sucramin. An ammoniacal salt of saccharin, having a sweetening power 700 times greater than that of beet-sugar.

Sudorific. An agent causing perspiration.

Supersaturated solution. A solution made in a heated condition, and thus containing a greater quantity of the solid than it could have absorbed at its normal temperature.

Suppositories. Cone-shaped medicinal preparations for introduction into the rectum, vagina, or urethra.

Syrup. A medicinal preparation made with sugar and water.

Tachiol. Silver fluorid, used in solutions of from 1 : 10,000 to 1 : 1000 as an antiseptic and germicide.

Taka-diastase. A starch-digesting ferment obtained from a fungus growing on wheat bran. Dose, 3 to 5 gr. (0.2–0.3 gm.).

Tannalbin. A preparation of tannin and albumin, used as an astringent in diarrheal conditions. Dose, 10 to 20 gr. (0.6–1.3 gm.).

Tannigen. A derivative of tannic acid, used as an astringent in diarrhea. Dose, 10 to 20 gr. (0.6–1.3 gm.).

Tannoform. A product of tannin and formaldehyd. It is a yellowish powder, used as an antiseptic and astringent.

Teniacide. An agent which kills tape-worms.

Thallium acetate. A white crys-

talline salt, used to check night-sweats. Its continued use sometimes causes baldness. Dose, 1 to 3 gr. (0.06–0.2 gm.).

Theocin. A compound prepared artificially from acetic acid. It has diuretic properties like those of caffein. Dose, 3 to 8 gr. (0.2–0.5 gm.).

Therapeutics. That branch of medicine which treats of the applications of remedies and all forms of cure.

Thiosinamin. A crystalline compound produced by acting on the oil of mustard with ammonia. It is used both internally and externally to soften scar tissue.

Thymacetin. A derivative of thymol, allied to phenacetin; used as a hypnotic and analgesic in nervous and mental disorders. Dose, 3 to 15 gr. (0.25–1.0 gm.).

Tincture. An alcoholic solution of a drug.

Tolerance. Ability to endure the continued use of a drug.

Tonic. A medicine which increases the strength and vigor of an organ or gives tone to the whole body.

Toxicity. The quality of being poisonous.

Toxicology. Science of poisons.

Triturate, Trituration. A preparation made by rubbing up a drug with milk-sugar.

Troches. Lozenges; small solids of various shapes intended to be dissolved in the mouth.

Tropacocain. An alkaloid from a variety of coca, used as a local anesthetic, like cocain.

Trunecek's serum. A weak solution of alkaline salts in water, recommended in chronic disease of the blood-vessels.

Tussol. Antipyrin amygdalate, used in whooping-cough. Dose, in aqueous solution, ¾ to 6 gr. (0.05–0.4 gm.), according to age.

Unofficial. Not authorized by the Pharmacopeia.

Urosin. Quinate of lithium, used in gout. Dose, 5 to 8 gr. (0.3–0.5 gm.).

Vascular system. A system of blood-vessels.

Vasomotor. Controlling the caliber of the blood-vessels.

Vehicle. Same as *Excipient.*

Vermicide. A remedy that destroys intestinal worms.

Vermifuge. Same as *Anthelmintic.*

Veronal. A crystalline compound used as a hypnotic. Dose, 5 to 8 gr. (0.3–0.5 gm.).

Vesicant. A blistering-agent.

Vinegars. Preparations made by percolating a drug with vinegar or dilute acetic acid.

Volatile. Evaporating quickly.

Vulnerary. A medicine used to relieve the pain of wounds and to promote their healing.

Wines. Solutions of drugs in white wine.

Zomotherapy. The treatment of tuberculous patients with large quantities of raw meat and expressed meat-juice.

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If the hands are reddened use this paste for several nights, slipping large, loose gloves over the hands:

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Pulverized myrrh	½ oz.

"Feed the skin well before retiring."

pat an emollient into the skin. Remove most of it with a soft handkerchief or piece of absorbent cotton, and leave the rest to be absorbed. The average length of time required for the skin to absorb oil or cream is two hours. If the skin be unusually dry, it will hungrily absorb the needed emollients in much less time.

Before going out of doors pat cold cream lightly into the skin and afterward dust powder upon the skin. This mask will protect the skin against the much-feared March winds, so coarsening to skin defenseless against it.

Also feed the skin well before retiring, as I have often directed. Either of these unguents will serve well the purpose of protection against March winds:

Oil of almonds, one tablespoonful.
Rosewater, two teaspoonfuls.
Tincture of benzoin, one teaspoonful.
Yoke of one egg.

Keep this and all other face lotions or creams in a cool place to prevent their becoming rancid.

towel pour into the palm of one a teaspoonful or more of the following whitening and softening preparation:

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Glycerine, 2 ounces.
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This is also a softening and whitening preparation:

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This is cheap and easily made:

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Still another nourishing lotion is this, much used in Europe:

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Rosewater	1 oz.
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